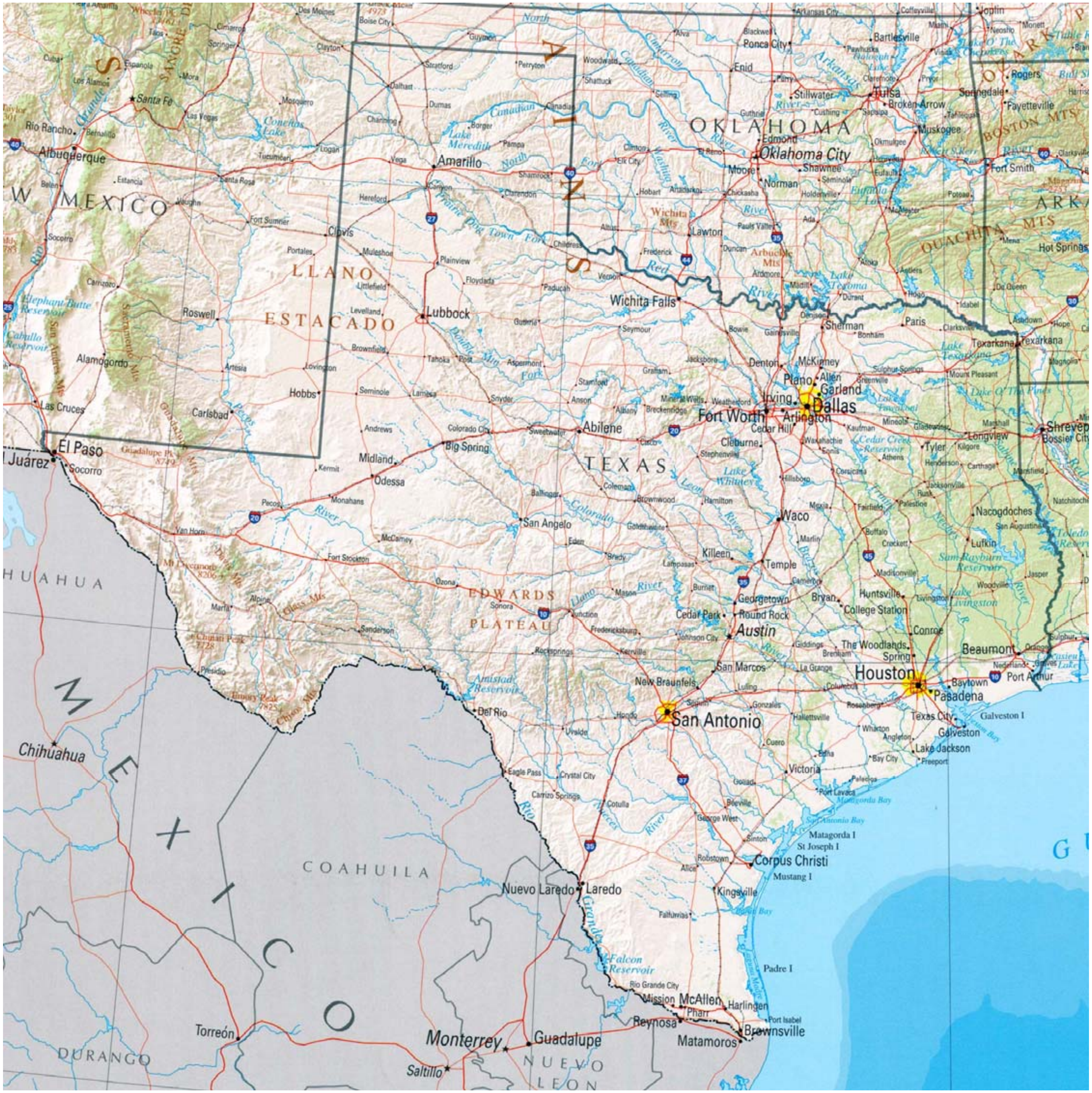
A Cursory Review of the Pressure Effects

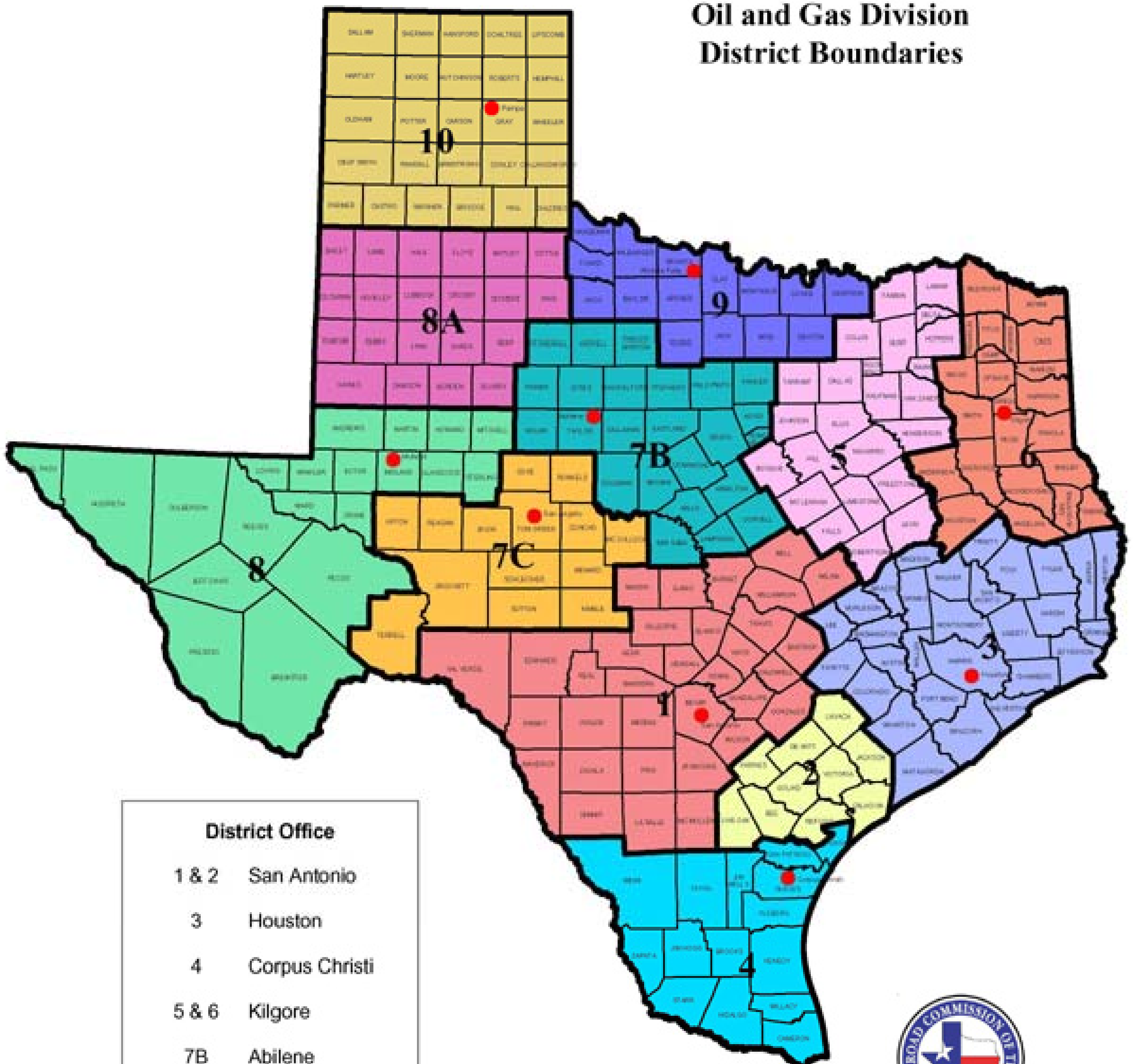
Induced by Ground Water Production

From the Goliad Aquifer

At the City of Victoria’s Public Water Supply System


OKLAHOMA
TEXAS
NEW MEXICO
MEXICO
CHIHUAHUA
COAHUILA
NUEVO LEON
DURANGO
LLANO ESTACADO
EDWARDS PLATEAU
OUACHITA MTS
BOSTON MTS
Oklahoma City
Tulsa
Amarillo
Lubbock
Wichita Falls
Abilene
Fort Worth
Dallas
Arlington
Irving
Plano
Garland
Waco
Austin
San Antonio
Houston
Pasadena
Beaumont
Port Arthur
Galveston
Corpus Christi
Laredo
Nuevo Laredo
McAllen
Brownsville
Matamoros
Reynosa
Monterrey
Saltillo
Torreón
Chihuahua
El Paso
Juárez
Albuquerque
Santa Fe
Las Cruces
Roswell
Midland
Odessa
San Angelo
Del Rio
Texarkana
Shreveport
Fort Smith
Norman
Lawton
Tyler
Longview
Nacogdoches
Lufkin
Bryan
College Station
Killeen
Temple
Victoria
Kingsville
Sherman
Denton
Paris
Abilene
Big Spring
Carlsbad
Hobbs
Clovis
Alamogordo
Rio Rancho
Guadalupe
Gulf of Mexico

Oil and Gas Division
District Boundaries

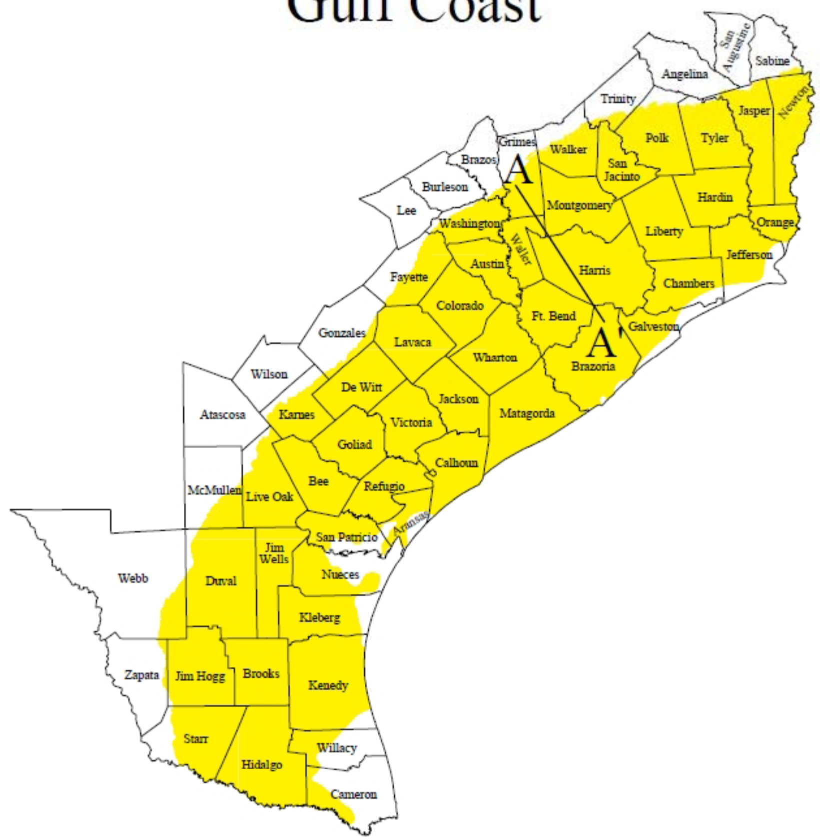


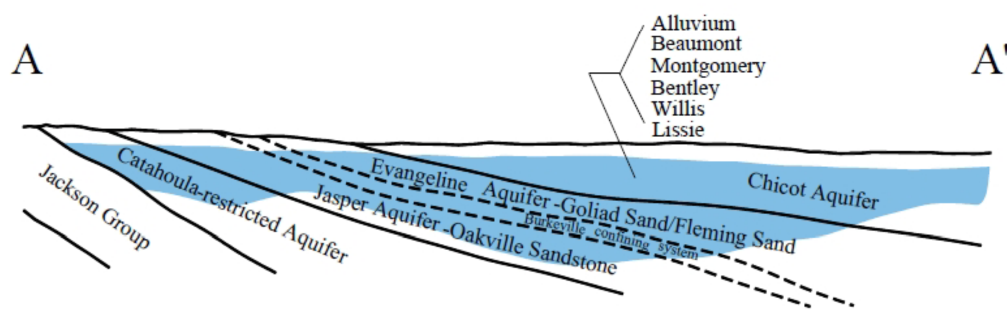
District Office

1 & 2	San Antonio
3	Houston
4	Corpus Christi
5 & 6	Kilgore
7B	Abilene
7C	San Angelo
8 & 8A	Midland
9	Wichita Falls
10	Pampa

RAILROAD COMMISSION of TEXAS
Oil and Gas Division

Gulf Coast

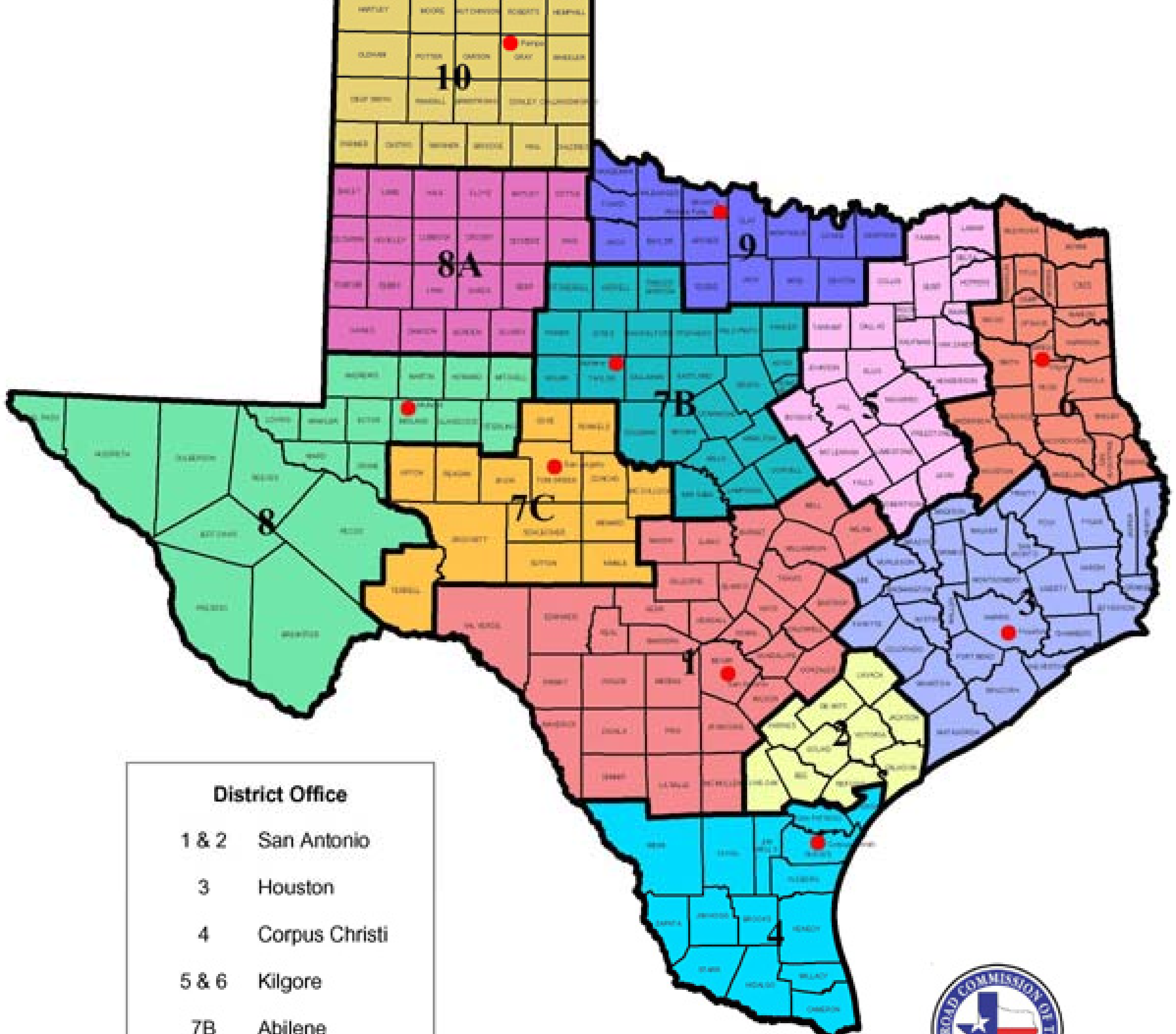




Modified from Baker, 1979

Tilden
Three Rivers
Cadiz
Orangedale
Beeville
BEE
Blanconia
Ryanville
Vidauri
REFUGIO
MCMULLEN
Simmons
George West
Dinero
Clareville
Chase Field N.A.S.
Aransas
Skidmore
Humble Camp
Refugio
Woodsboro
St. Charles Bay
ARANSAS N.W.R.
Goose Island S.P.
Holiday Beach
Mission Bay
Olmos
Argenta
Papalote
Mt. Lucas
Lake Corpus Christi
LIVE OAK
Lagarto
Tynan
St. Paul
Bonnie View
Copano Vil.
Lamar
Copano Bay
Aransas Bay
Clegg
Lake Corpus Christi S.P.
Mathis
Sinton
Bayside
Fulton Mansion
Fulton
Rockport
Loma Alta
Annarose
Pernitas Pt.
Wesley Seale Dam
W. Sinton
SAN PATRICIO
ARANSAS
Palm Harbor
Seven Sisters
Rancho de la Parita
Midway
Wade
Sandia
Edroy
Sodville
Taft
Estes
Orange Grove
Odem
Millsville
Gregory
Aransas Pass
DUVAL
JIM WELLS
Lipantitlan St. Hist. Site
San Patricio
Portland
Ingleside
FREE FERRY
Freer
Alfred
Bluntzer
Calallen
Aransas Pass
Port Aransas
Corpus Christi Bay
Banquete
Rabb
Violet
San Diego
Rosita
Alice
Agua Dulce
Robstown
Corpus Christi
San Juan
Corpus Christi N.A.S.
Mustang Island S.P.
Rancho Alegre
Driscoll
Petronila
Corpus Christi St. Univ.
Guajillo
Palito Blanco
Ben Bolt
Palo Alto
NUECES
Agua Dulce
Benavides
Kings Ranch
Bishop
Chapman Ranch
San Jose
King Ranch
Kingsville N.A.S.
Kingsville
Texas A&I Univ.
El. 66 ft.
Laguna Largo
Laguna Madre
Realitos
Rios
Cayo Del Grullo
Concepcion
Cruz Calle
Ricardo
KLEBERG
Loyola Beach
Ramirez
Premont
Riviera
Riviera Beach
Baffin Bay
Alazan Bay
Griffins Pt.
Sejita
Falfurrias
Los Olmos
Sarita
PADRE ISLAND NATIONAL SEASHORE
Laguna Salado
KENEDY

Oil and Gas Division
District Boundaries



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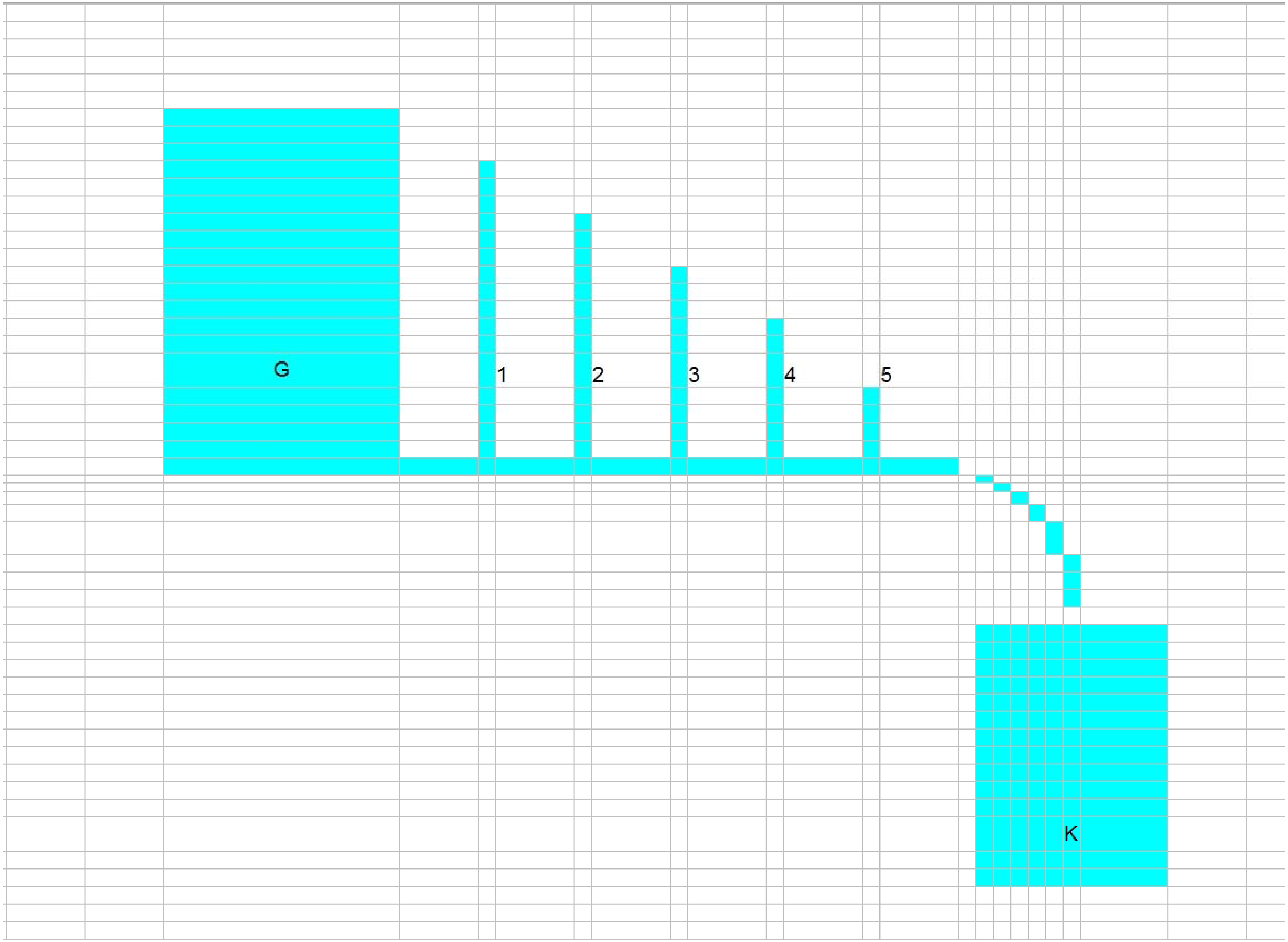
RAILROAD COMMISSION of TEXAS
Oil and Gas Division


G
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K

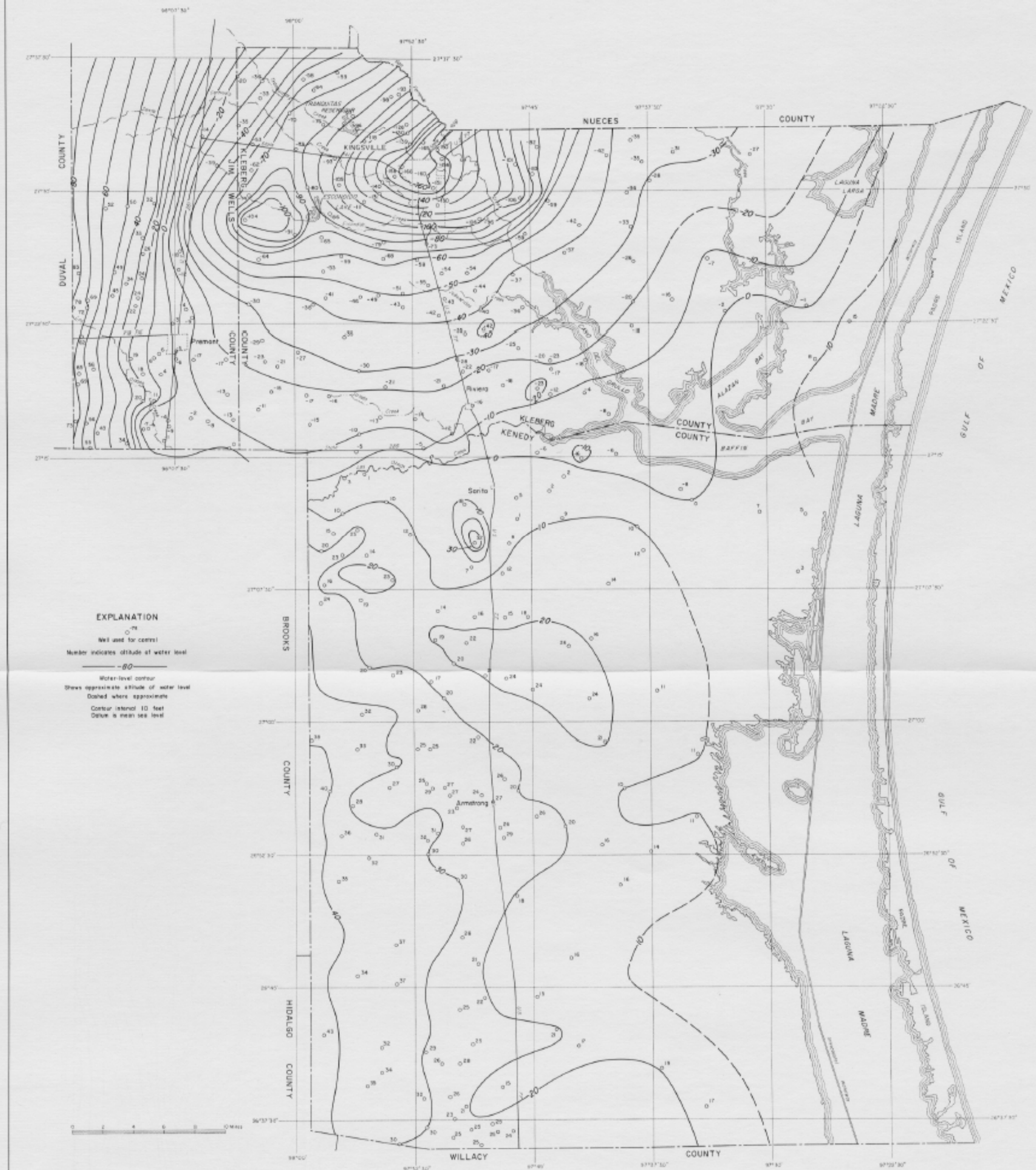
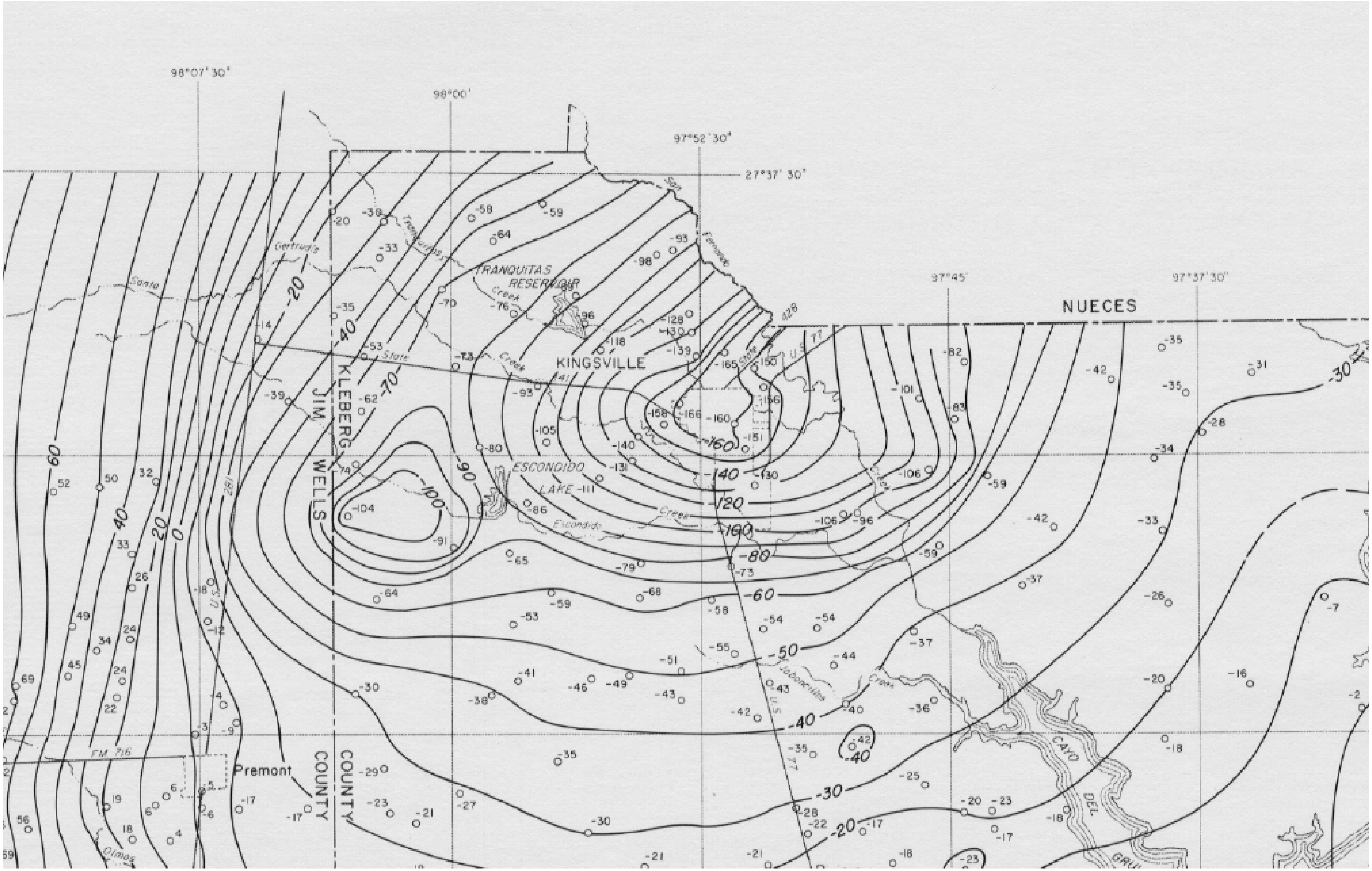
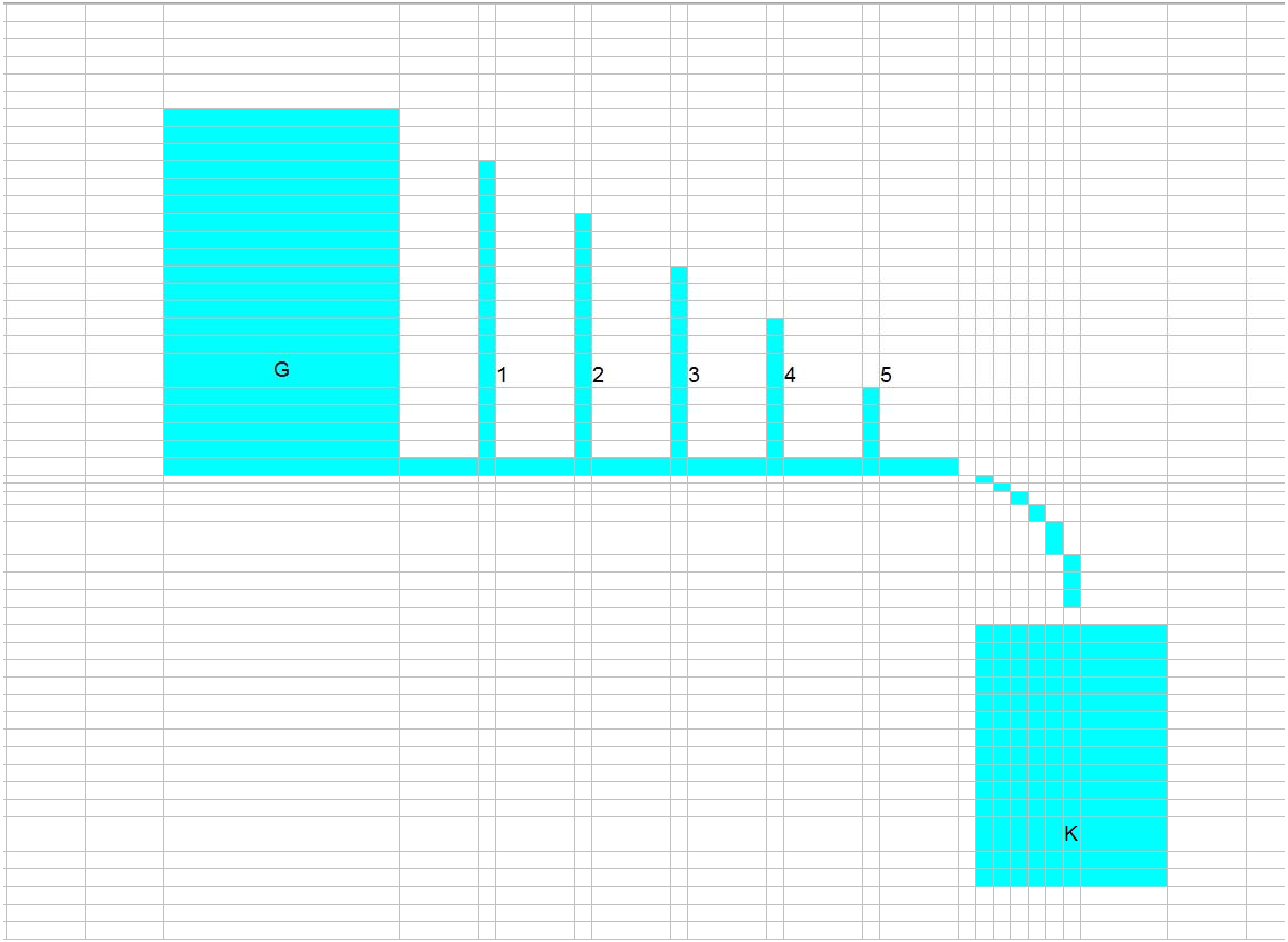


Figure 8
Approximate Altitude of Water Levels in Wells in the Goliad Sand, 1968-69

Base from U.S. Geological Survey topographic quadrangles


98°07'30"
98°00'
97°52'30"
27°37'30"
97°45'
97°37'30"
NUECES
KINGSVILLE
TRANQUITAS RESERVOIR
ESCONDIDO LAKE
JIM WELLS COUNTY
KLEBERG COUNTY
Premont
CAYO DEL GRULLO
Santa Gertrudis
Escondido Creek
Tranquitas Creek
San Fernando
Jaboncillos Creek
FM 716
U.S. 77
U.S. 281
U.S. 77
428

YAHOO!
87
Cuero
183
87
77
LAVACA
COUNTY
DE WITT
COUNTY
Yorktown
KARNES
COUNTY
72
Runge
VICTORIA
COUNTY
87
77
LOOP
463
Victoria
59
GOLIAD
COUNTY
239
Goliad
183
10.0 km
10 mi
©Yahoo!2008, Data©NAVTEQ2008


G
1
2
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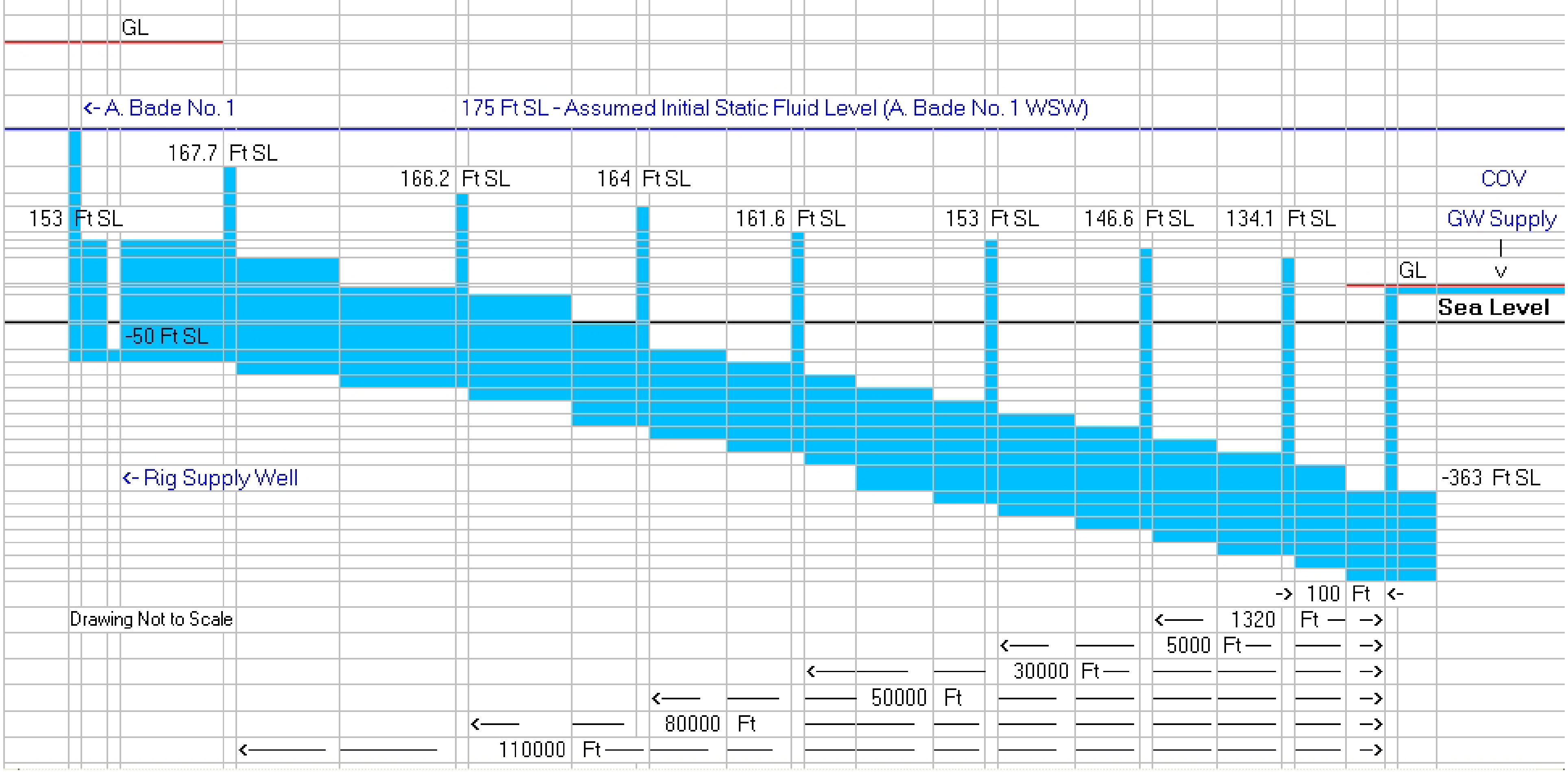
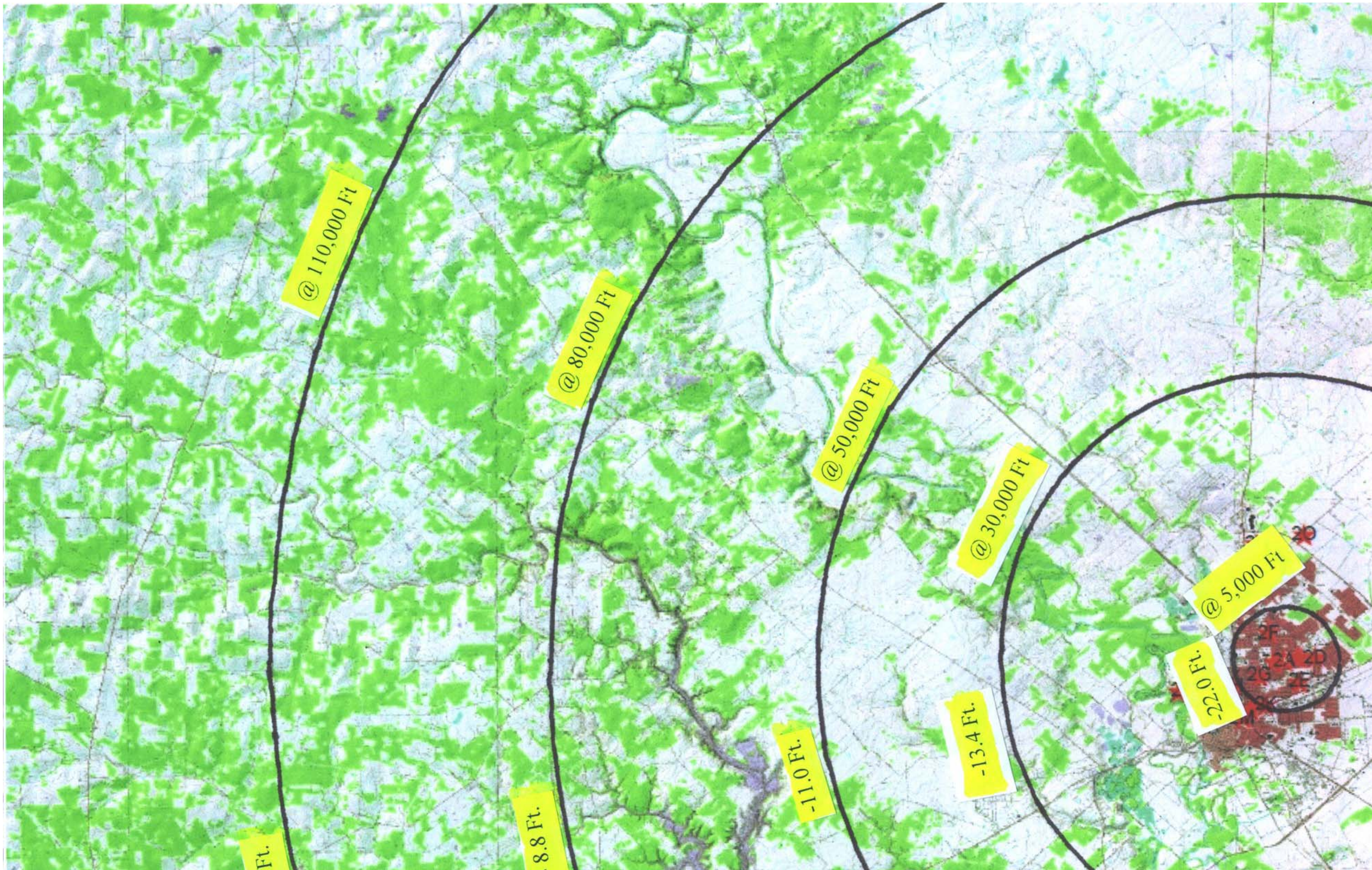
K

Preliminary Aquifer Drawdown Analysis for City of Victoria (COV) Ground Water Supply System

Model Results For 50 Years of Operation at 1000 Ac-Ft/Yr Water Production Rate





@ 110,000 Ft
@ 80,000 Ft
@ 50,000 Ft
@ 30,000 Ft
@ 5,000 Ft
2F
2A
2D
2G
2E
-22.0 Ft.
-13.4 Ft.
-11.0 Ft.
- 8.8 Ft.
- 7.3 Ft.

In the aquifer, the Pressure at a distance r from the well is given by:

$$p = p_e + \frac{q\mu B_o}{14.16\ kh} Ei\left[\frac{-r^2}{4\ \eta t}\right]$$

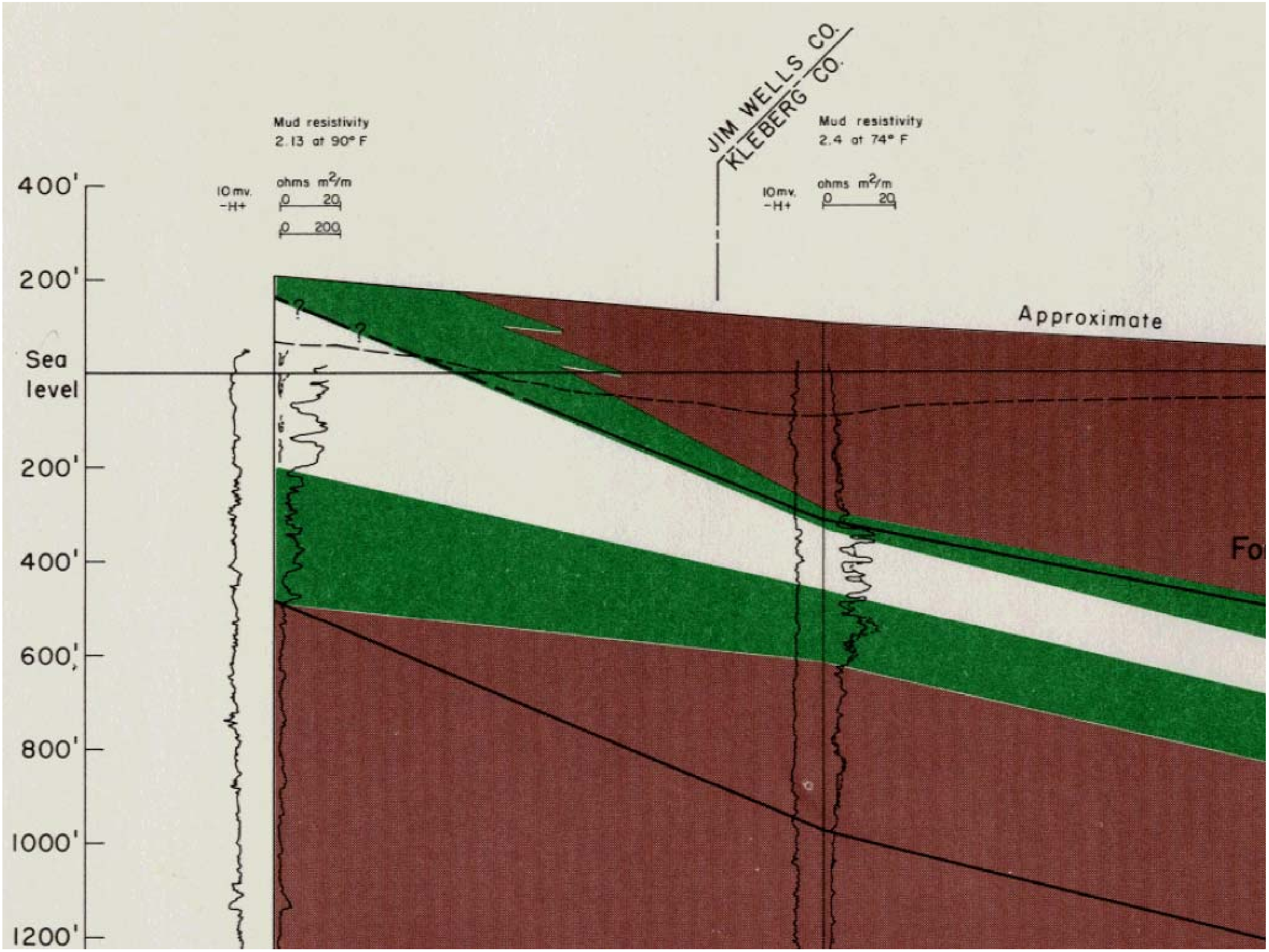
The parameters within the square brackets give the value of x in the series below

The Diffusivity Coefficient was computed using:

$$\eta = \frac{6.32\ k}{\mu c_e \phi_{\mathrm{HC}}} =$$

$$Ei(-x) = \ln x + 0.5772 - x + \frac{x^2}{2 \times 2!} - \frac{x^3}{3 \times 3!} + \frac{x^4}{4 \times 4!} - \cdots \frac{x^n}{n \times n!}$$

The Exponential Integral Ei was computed with the above series expanded to x^5



The permeable interval in the Goliad sand was estimated as 230 feet thick

Goliad Aquifer Supply Rate for Kingsville

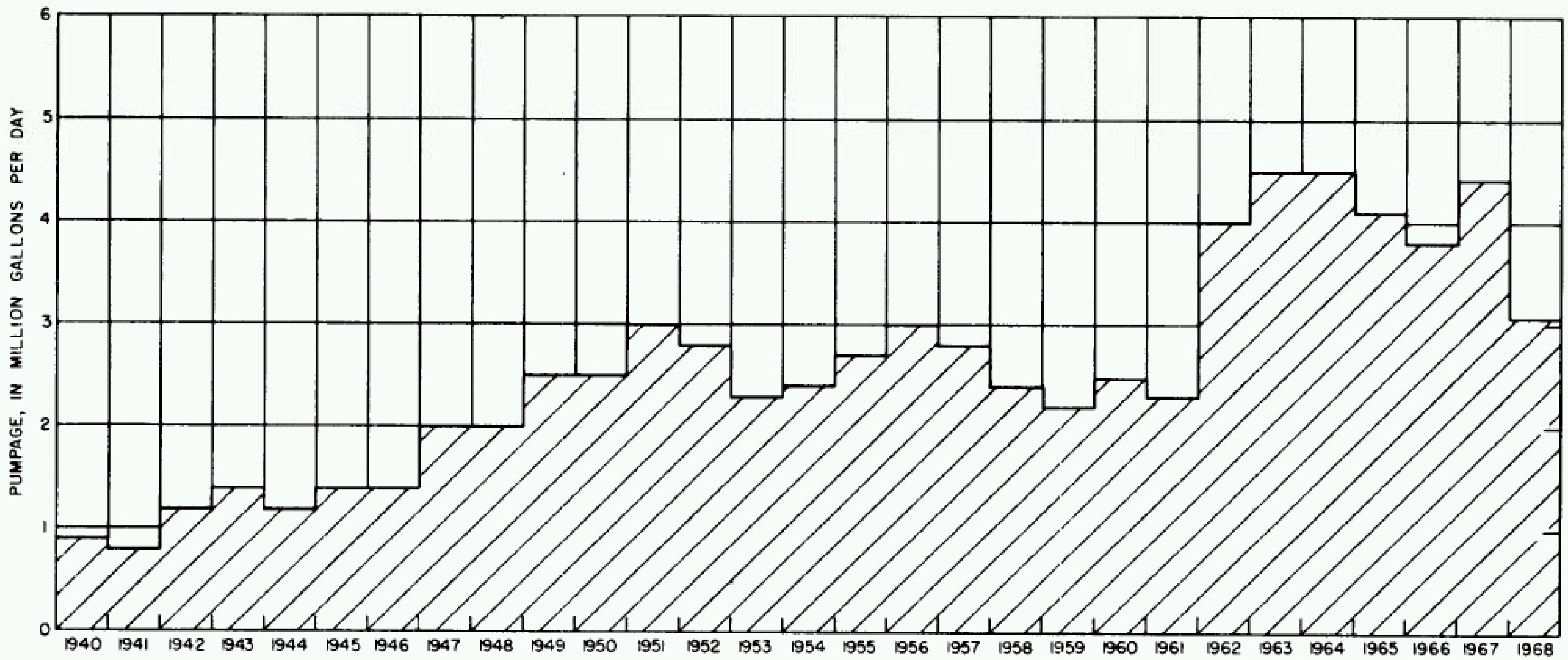


Figure 7.—Average Daily Pumpage of Ground Water for Public Supply by the City of Kingsville, 1940-68

Average Water Production Rate of Roughly 3 MMGals/Day Over 30 Years

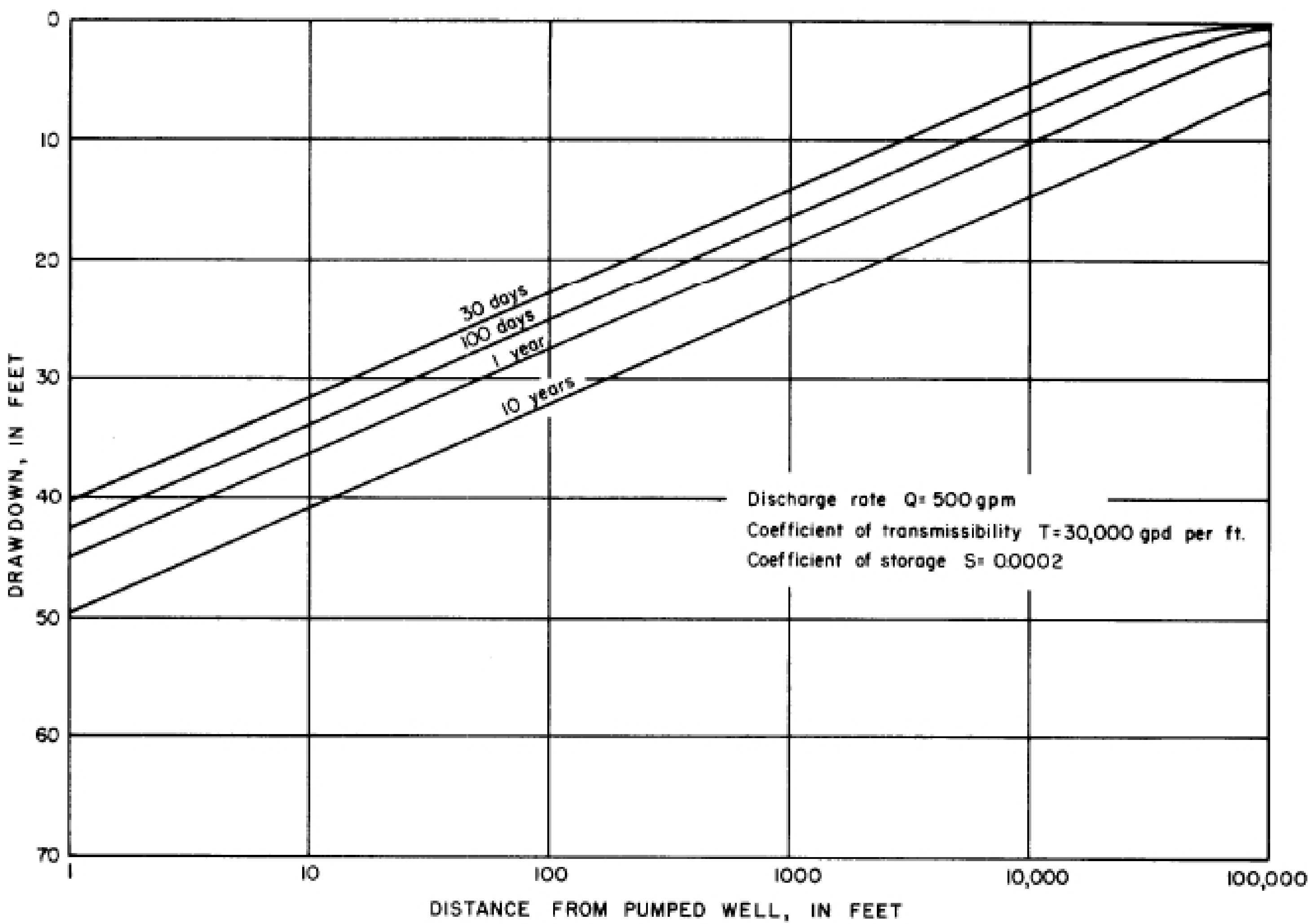
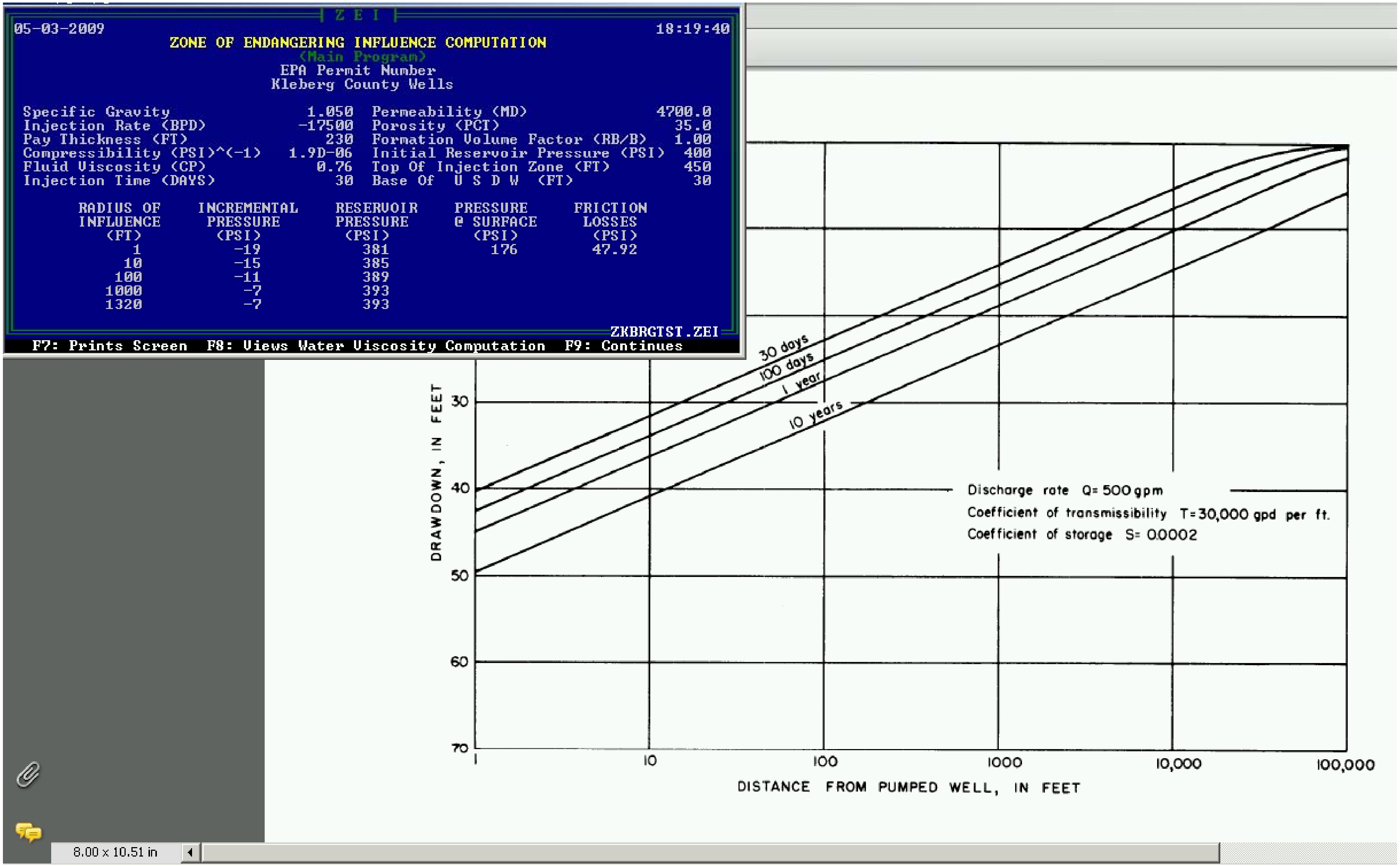
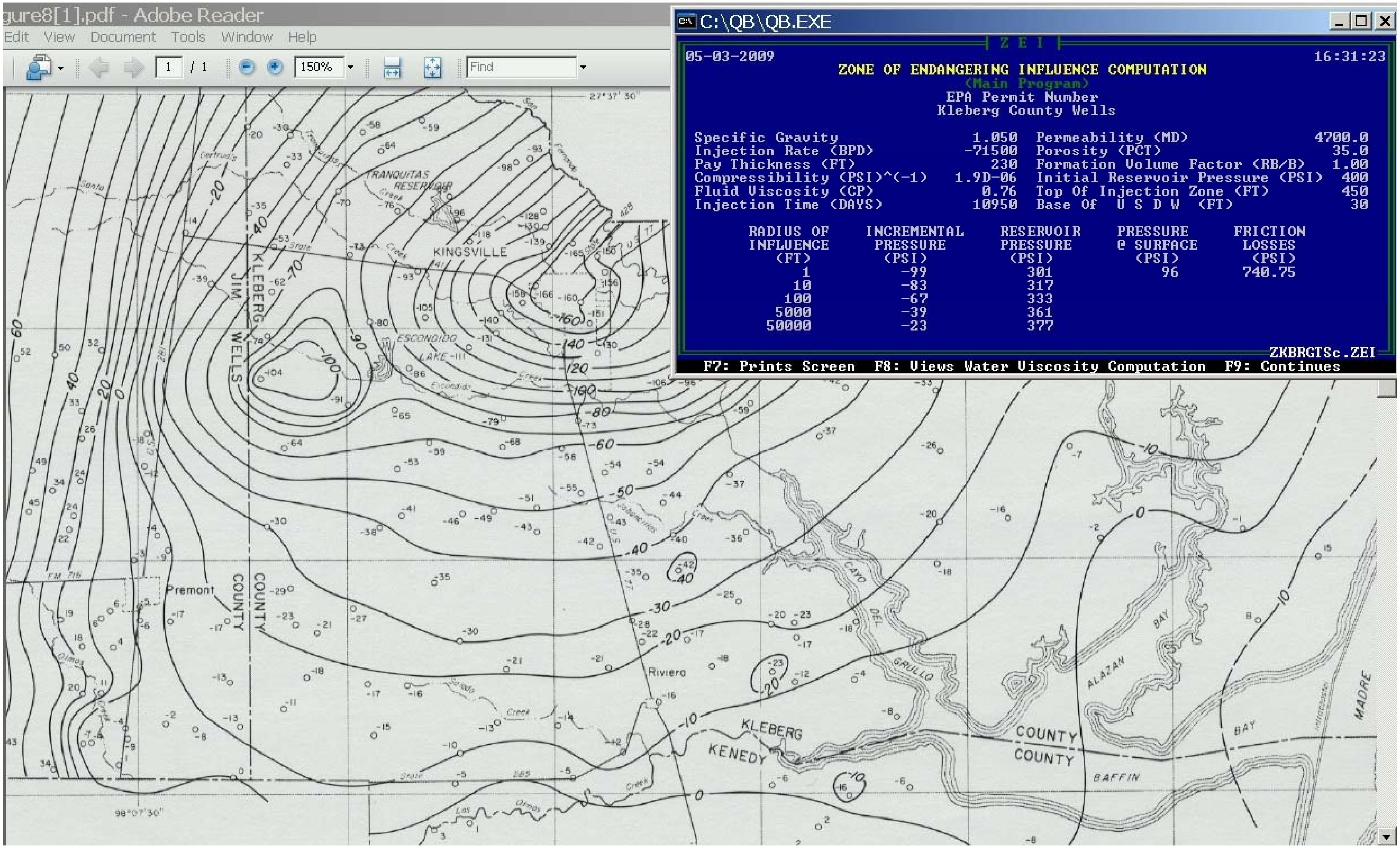


Figure 6.—Relation of Drawdown to Time and Distance as a Result of Pumping Under Artesian Conditions

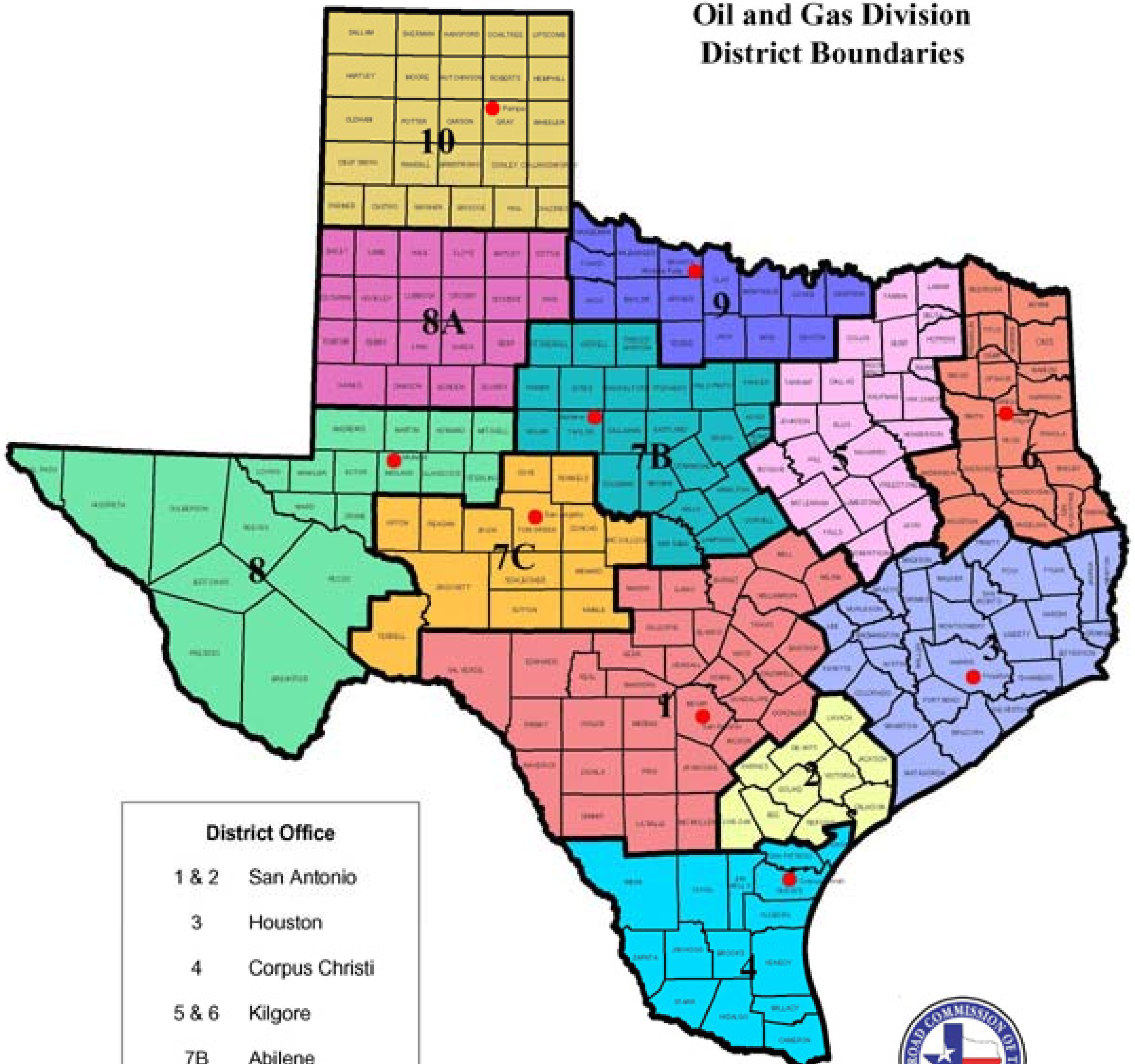


The Drawdown Test in TWDB's paper No. 173 indicates a value of k=4700 md



The estimated pressure Drawdown @ r=50,000 ft approaches the mapped value

Oil and Gas Division
District Boundaries



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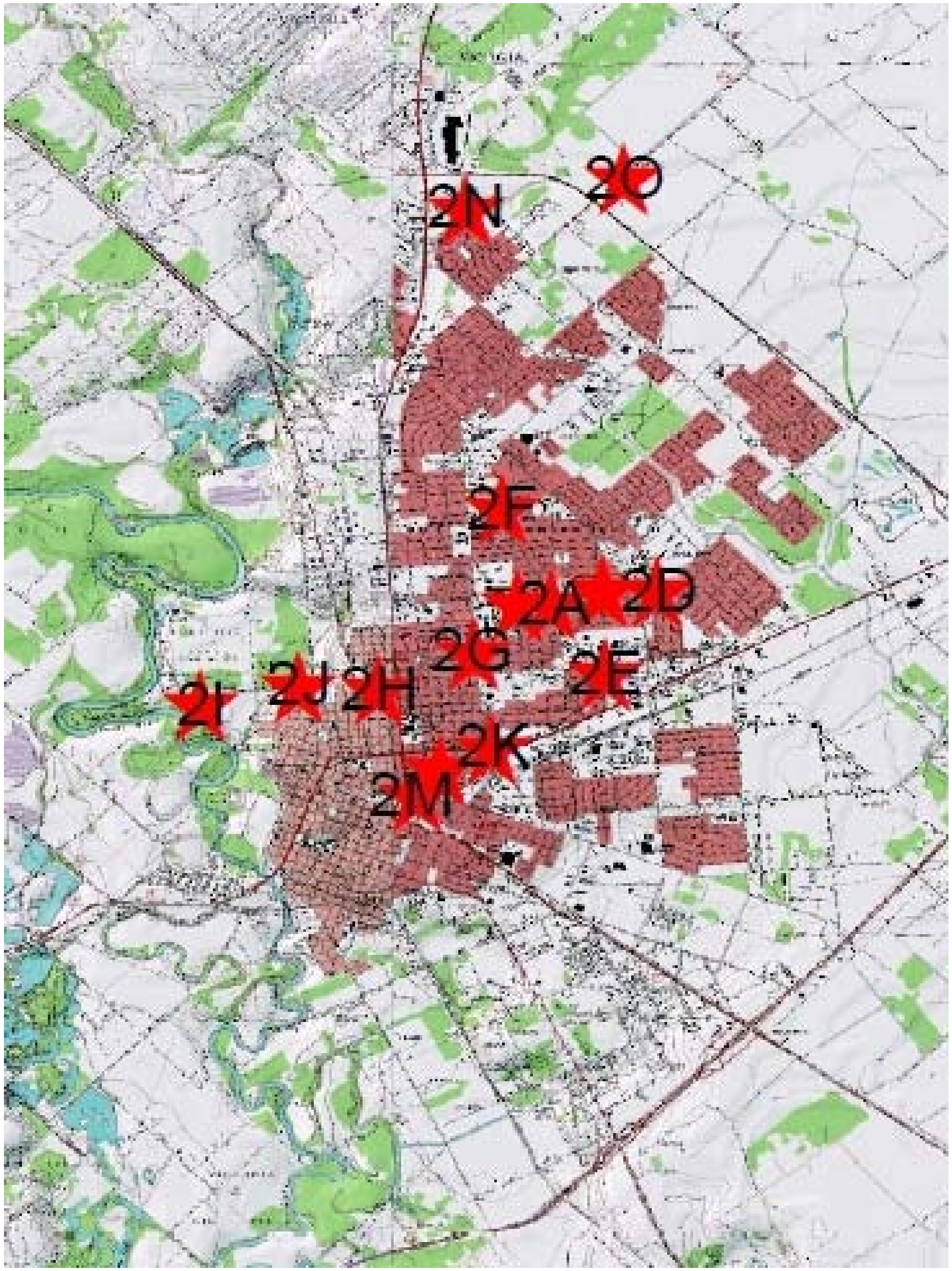
RAILROAD COMMISSION of TEXAS
Oil and Gas Division



2O
2N
2F
2A
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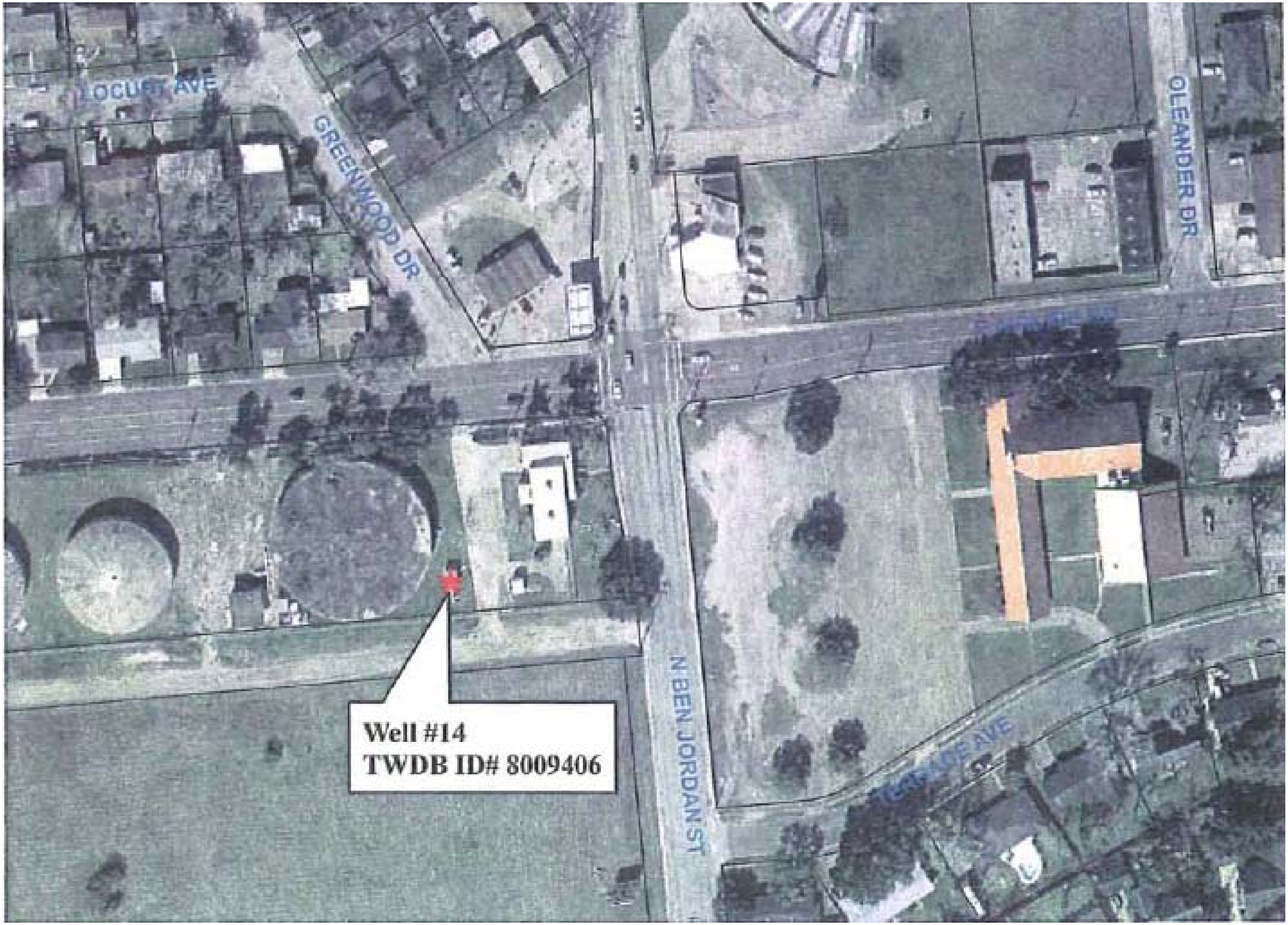
2E
2J
2H
2K
2M


LOCUST AVE
GREENWOOD DR
OLEANDER DR
N BEN JORDAN ST
Well #14
TWDB ID# 8009406

FORM NO. 27 - 1M - 6-51 - DSL

THE LAYNE TEXAS COMPANY, LTD.

HOUSTON -:- DALLAS

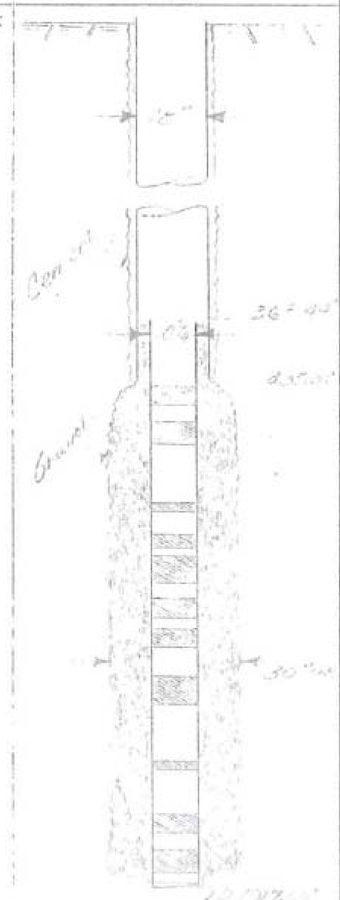
MATERIAL SETTING

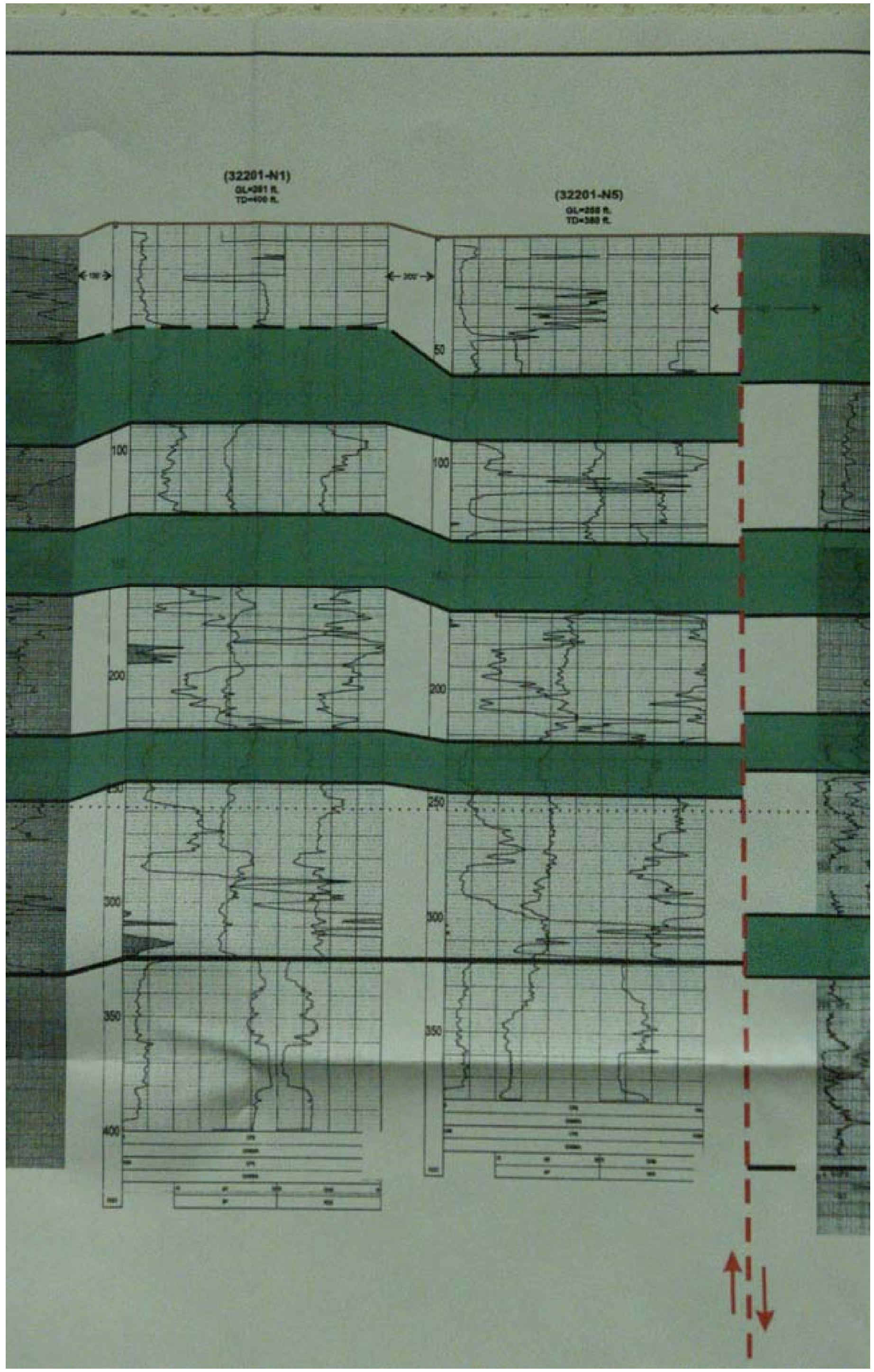
REPORT NO. 3339
S. O. 2345-53
PAGE 1 OF 1
FILE NO. 1847
DATE 9/18/53

CUSTOMER LOCATION	WELL DATA
FOR CITY OF VICTORIA	NAME WELL SAME WELL NO. 14
	ELEVATION DATUM
LOCATION WELL VICTORIA	TYPE WELL GRAVEL-WALL
	SURFACE CASING CEMENTED YES NO SACKS 765
SURVEY FIELD	SIZE HOLE UNDERREAMED 30" DEPTH 435-1017'
	GRAVEL TYPE FILTER NO. CU. YDS. 150
COUNTY VICTORIA STATE TEXAS	TYPE SCREEN S.S. W.W. GAGE .050
	DRILLER O. GUTZMANN RIG NO. 2-SPEC.
OTHER LAND MARKS	OTHER

DEPTH	LENGTH	SIZE, KIND, WEIGHT MATERIAL
0 / 1.0'		18"OD CASING EXTENDS 1' ABOVE SURFACE
0		SURFACE
368.44'		TOP OF 10-3/4"OD LAPS 66.56' INTO 18" O.D.
435.00'	436.00'	18" O.D. SURFACE CASING
442.49'	74.05'	10-3/4" O.D. BLANK PIPE
464.49'	22.00'	10-3/4"OD S.S. W.W. SCREEN .050 GA.
483.64'	19.15'	10-3/4" O.D. BLANK PIPE
509.65'	26.01'	10-3/4" O.D. SCREEN
578.87'	69.22'	10-3/4" O.D. BLANK PIPE
589.72'	10.85'	10-3/4" O.D. SCREEN
613.95'	24.23'	10-3/4" O.D. BLANK PIPE
629.85'	15.90'	10-3/4" O.D. SCREEN
639.02'	9.17'	10-3/4" O.D. BLANK PIPE
669.92'	30.90'	10-3/4" O.D. SCREEN
687.20'	17.28'	10-3/4" O.D. BLANK PIPE
709.95'	22.75'	10-3/4" O.D. SCREEN
722.63'	12.68'	10-3/4" O.D. BLANK PIPE
745.00'	22.37'	10-3/4" O.D. SCREEN
779.12'	34.12'	10-3/4" O.D. BLANK PIPE
810.32'	31.20'	10-3/4" O.D. SCREEN
874.55'	64.23'	10-3/4" O.D. BLANK PIPE
884.55'	10.00'	10-3/4" O.D. SCREEN
933.55'	49.00'	10-3/4" O.D. BLANK PIPE
955.55'	22.00'	10-3/4" O.D. SCREEN
974.83'	19.28'	10-3/4" O.D. BLANK PIPE
1000.00'	25.17'	10-3/4" O.D. SCREEN
1015.00'	15.00'	10-3/4" O.D. BLANK PIPE
1017.00'	2.00'	10-3/4" O.D. SET NIPPLE, B.P. VALVE & W.W. PLUG

SKETCH



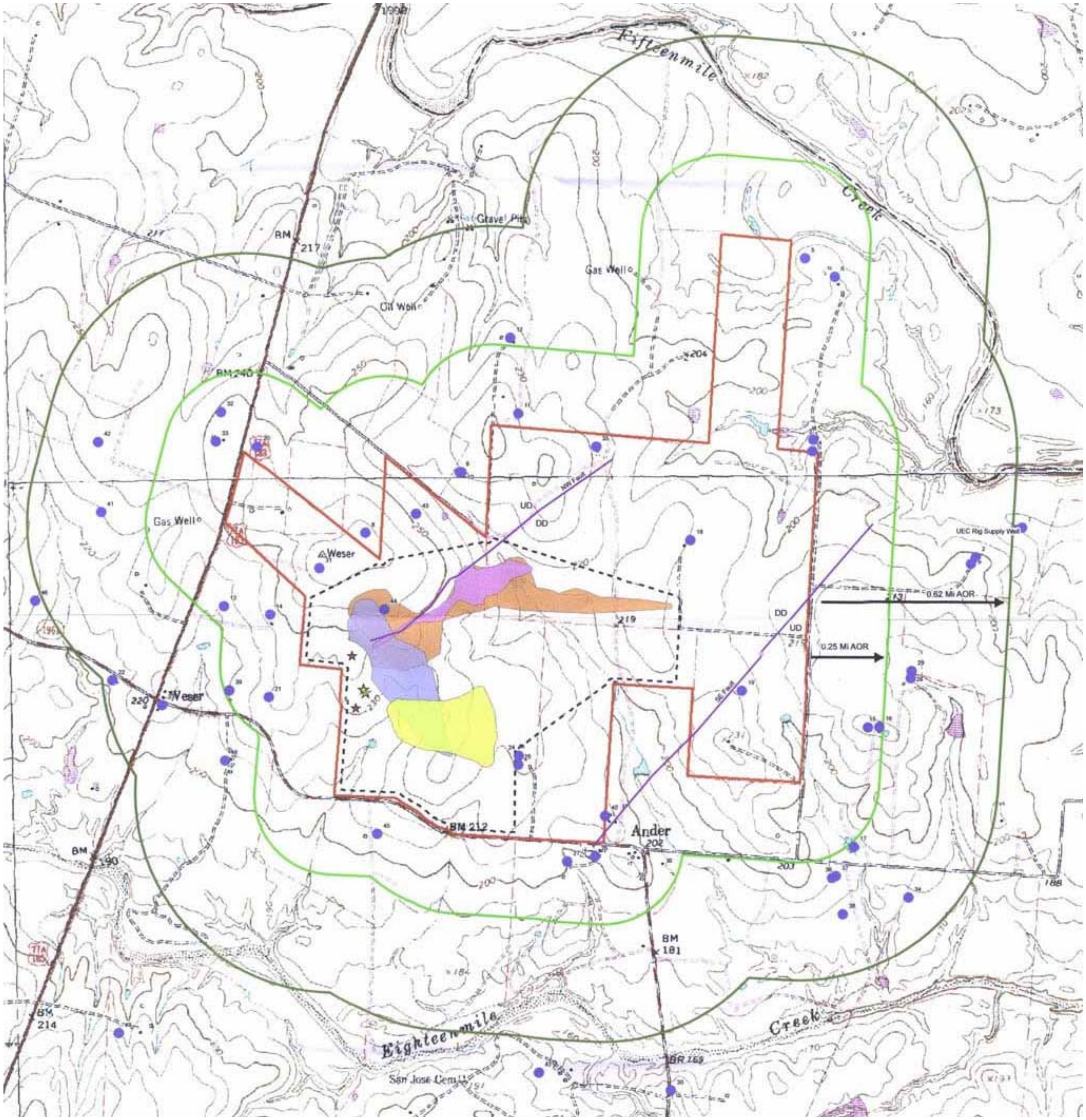

(32201-N1)
(32201-N5)
50
100
200
250
300
350
400

12/14/2000	1.303	0	0	1.174	0.331	1.296	0.356	0	0	1.445	0.741	0	1.445	0.547	0.519
12/15/2000	1.138	1.138	0	0.987	0.32	1.05	0.329	0	0	1.112	0.6	0	0.516	0.455	0.463
12/16/2000	0	1.092	0	0.957	0.532	1.027	0.256	0	0	1.062	0.547	0	1.053	0.532	0.545
12/17/2000	0	1.551	0	1.107	0.425	2	0.282	0	0	1.217	0.552	0	1.037	0.363	0.316
12/18/2000	0	0.988	0	1.001	0.632	1.091	0.502	0	0	1.185	0.46	0	0.866	0.51	0.524
12/19/2000	0	1.514	0	1.237	0.248	1.361	0.524	0	0	1.52	0.399	0	0.781	0.504	0.505
12/20/2000	0	1.389	0	1.165	0.658	1.267	0.18	0	0	1.274	0.348	0	0.652	0.371	0.344
12/21/2000	0	1.079	0	1.042	0.283	0.952	0.34	0	0	1.185	0.497	0	0.961	0.62	0.638
12/22/2000	0	1.436	0	1.192	0.216	1.291	0.519	0	0	1.365	0.45	0	0.86	0.473	0.46
12/23/2000	0	1.331	0	1.116	0.403	1.212	0.264	0	0	1.295	0.382	0	0.727	0.579	0.548
12/24/2000	0	1.556	0	1.275	0.34	1.382	0.346	0	0	1.442	0.398	0	0.758	0.458	0.433
12/25/2000	0	1.258	0	1.051	0.412	1.147	0.261	0	0	1.358	0.387	0	0.738	0.414	0.406
12/26/2000	0	1.407	0	1.163	0.17	1.259	0.517	0	0	1.29	0.385	0	0.732	0.363	0.356
12/27/2000	0	1.212	0	1.137	0.378	1.089	0.329	0	0	1.383	0.423	0	0.803	0.558	0.563
12/28/2000	0	1.264	0	1.045	0.452	1.132	0.283	0	0	1.149	0.491	0	0.934	0.418	0.391
12/29/2000	0	1.35	0	1.107	0.393	1.184	0.265	0	0	1.154	0.425	0	0.783	0.387	0.381
12/30/2000	0	1.167	0	0.965	0.322	1.033	0.558	0	0	1.101	0.469	0	0.912	0.378	0.373
12/31/2000	0	1.322	0	1.087	0.434	1.174	0.248	0	0	1.277	0.439	0	0.83	0.444	0.437
Total MG	268.839	377.454	437.915	93.021	216.369	202.960	208.220	108.638	411.827	458.903	117.200	202.580	226.530	252.982	253.897

Yr 2000

Well #	14	15	16	17	19	20	21	23	25	26	12	18	22	24	27
Max MGD	2.123	3.136	3.124	1.466	2.709	2.513	2.74	2.057	3.272	2.841	2	1.7	1.494	1.847	1.796
Acre/Ft	825.04	1,158.36	1,343.91	285.47	664.01	622.86	639.00	333.40	1,263.85	1,408.32	359.67	621.69	695.20	776.37	779.18

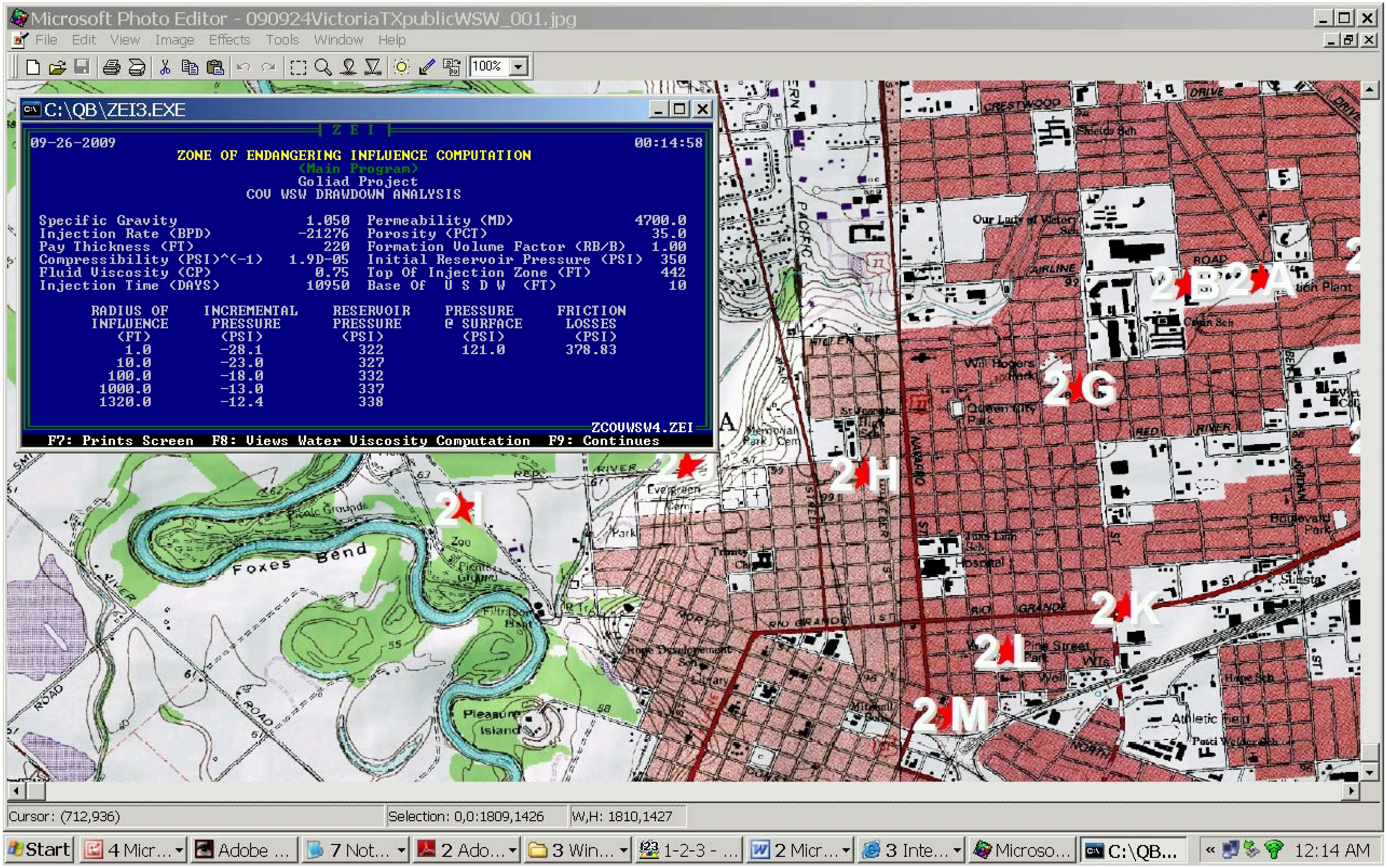
Total Acre/Ft 11,776.34



Fifteenmile
Creek
Gravel Pit
BM 217
Gas Well
Oil Well
BM 240
Gas Well
Weser
NW Fault
UD
DD
SE Fault
UEC Rig Supply Well
0.62 Mi AOR
0.25 Mi AOR
219
Weser
220
BM 212
Ander
202
203
BM 190
BM 181
BM 214
Eighteenmile
Creek
San Jose Cem

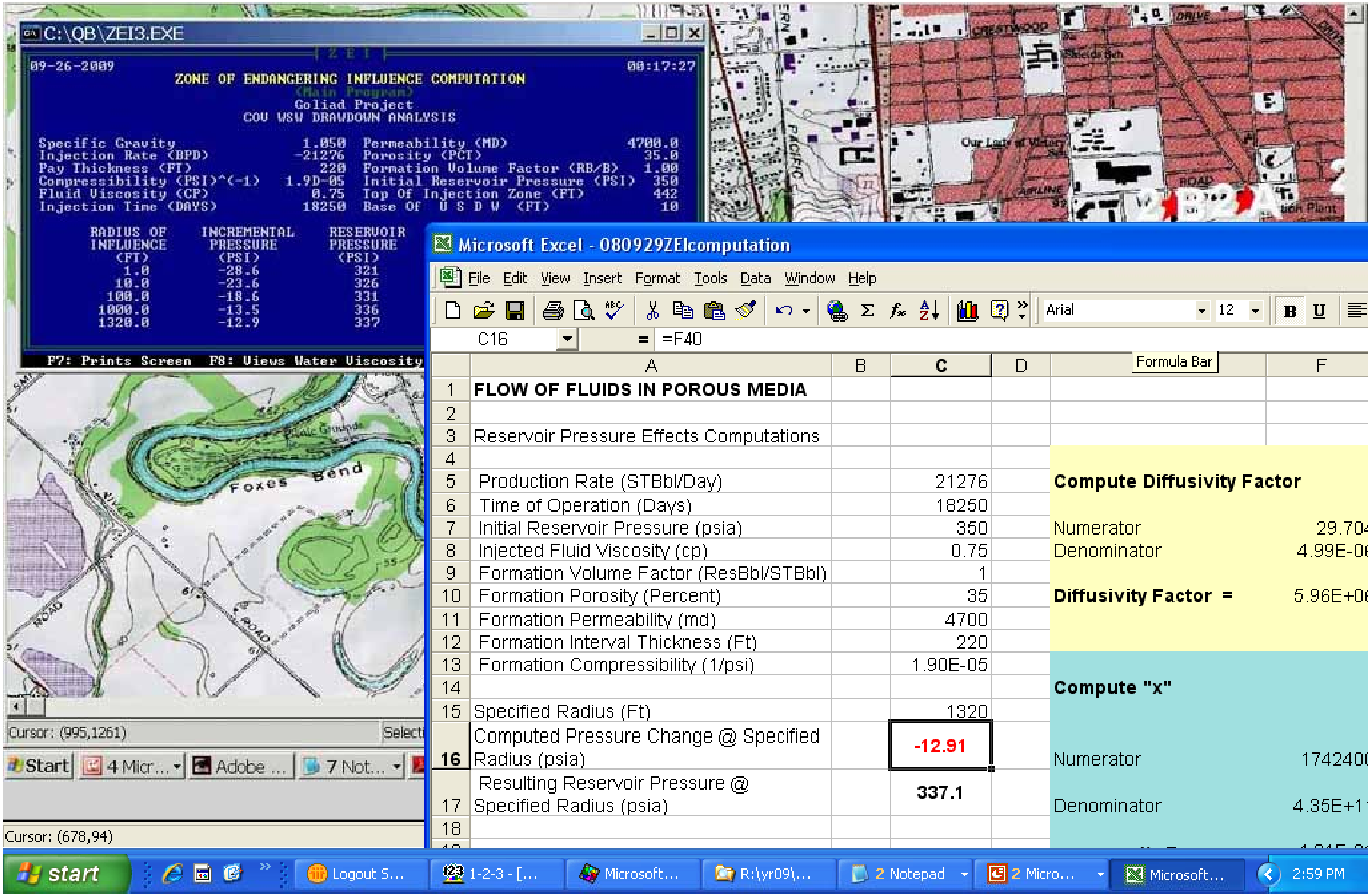
Well Name	Map ID	Ground Level (ft) Above SL	Total Depth (ft)	Total Depth (ft) Above SL	Fluid Level (ft) From Surface	Fluid Level (ft) Above SL
J. Jacob 1	1	203	80	123	53.87	149.13
J. Jacob - ORW*	7	170	?		220.00	-50.00
C. Duderstadt 1	9	238	?		49.93	188.07
O. Bluntzer 1	15	230	128	102	80.00	150.00
K. Gray 1	17	185	?		36.04	148.96
T. Anklam 1	20	243	300	-57	86.60	156.40
A. Bade 1	22	204	86	118	31.00	173.00
A. Bade 2	23	218	?		49.05	168.95
M. Braquet 1	24	231	?		67.74	163.26
C. Tolbert 1	28	210	?		58.31	151.69
P. Breeden 3	38	178	460	-282	43.32	134.68
L. Schrade 1	40	212	?		68.57	143.43
H. Becker 1	47	177	?		21.18	155.82

* Old Rig Well



COV Preliminary Drawdown Analysis For 10^3 (Ac-Ft)/Yr – 65,000 Pop.

Modeled PSI Drawdown For Radii Between 1 Ft & 1320 Ft After 30 Yrs of Operation


C:\QB\ZEI3.EXE
09-26-2009
00:17:27
ZONE OF ENDANGERING INFLUENCE COMPUTATION
Goliad Project
COU USW DRAWDOWN ANALYSIS
Specific Gravity 1.050
Injection Rate (BPD) -21276
Pay Thickness (FT) 220
Compressibility (PSI)^(-1) 1.9D-05
Fluid Viscosity (CP) 0.75
Injection Time (DAYS) 18250
Permeability (MD) 4700.0
Porosity (PCT) 35.0
Formation Volume Factor (RB/B) 1.00
Initial Reservoir Pressure (PSI) 350
Top Of Injection Zone (FT) 442
Base Of U S D W (FT) 10
RADIUS OF INFLUENCE (FT) | INCREMENTAL PRESSURE (PSI) | RESERVOIR PRESSURE (PSI)
1.0 | -28.6 | 321
10.0 | -23.6 | 326
100.0 | -18.6 | 331
1000.0 | -13.5 | 336
1320.0 | -12.9 | 337
F7: Prints Screen F8: Views Water Viscosity
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C16
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Formula Bar
1 FLOW OF FLUIDS IN POROUS MEDIA
3 Reservoir Pressure Effects Computations
5 Production Rate (STBbl/Day) 21276
6 Time of Operation (Days) 18250
7 Initial Reservoir Pressure (psia) 350
8 Injected Fluid Viscosity (cp) 0.75
9 Formation Volume Factor (ResBbl/STBbl) 1
10 Formation Porosity (Percent) 35
11 Formation Permeability (md) 4700
12 Formation Interval Thickness (Ft) 220
13 Formation Compressibility (1/psi) 1.90E-05
15 Specified Radius (Ft) 1320
16 Computed Pressure Change @ Specified Radius (psia) -12.91
17 Resulting Reservoir Pressure @ Specified Radius (psia) 337.1
Compute Diffusivity Factor
Numerator 29.70
Denominator 4.99E-0
Diffusivity Factor = 5.96E+0
Compute "x"
Numerator 174240
Denominator 4.35E+1
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Summary of Preliminary Aquifer Drawdown Analysis for the City of Victoria Ground Water Supply Wells

Basic Input Data

City's Population:	65,000		Datum:	Sea Level	Porosity (%)	35.0		
Number of Water Wel	15		Initial Reservoir Press. PSI	350.0	Permeability (md)	4,700	Compressibility (1/PSI)	1.90E-005
GW Production. Rate	1,000	Ac-Ft/Yr	Viscosity (cp)	0.75	Thickness (Ft)	220		
	21,276	Bbl/Day	Form. Vol. Fctr.	1.0				

Model Results - Estimated Pressure and Hydrostatic Head Changes

Years of Operation	Drwdown @ 1.0 Ft From No. 14 Well PSI	Hydr. Head (Ft) Change @ 1.0 Ft From No. 14 Well	Drwdown @ 10 Ft From No. 14 Well PSI	Hydr. Head (Ft) Change @ 10 Ft From No. 14 Well	Drwdown @ 100 Ft From No. 14 Well PSI	Hydr. Head (Ft) Change @ 100 Ft From No. 14 Well	Drwdown @ 1000 Ft From No. 14 Well PSI	Hydr. Head (Ft) Change @ 1000 Ft From No. 14 Well	Drwdown @ 1320 Ft From No. 14 Well PSI	Hydr. Head (Ft) Change @ 1320 Ft From No. 14 Well
1	-24.3	-53.4	-19.3	-42.5	-14.3	-31.5	-9.3	-20.5	-8.7	-19.1
10	-26.9	-59.2	-21.8	-47.9	-16.8	-37.0	-11.8	-26.0	-11.2	-24.6
20	-27.6	-60.7	-22.6	-49.7	-17.6	-38.7	-12.5	-27.5	-11.9	-26.2
30	-28.1	-61.8	-23.0	-50.6	-18.0	-39.6	-13.0	-28.6	-12.4	-27.3
50	-28.6	-62.9	-23.6	-51.9	-18.6	-40.9	-13.5	-29.7	-12.9	-28.4

Years of Operation	Drwdown @ 5000 Ft From No. 14 Well PSI	Hydr. Head (Ft) Change @ 5000 Ft From No. 14 Well	Drwdown @ 30000 Ft From No. 14 Well PSI	Hydr. Head (Ft) Change @ 30000 Ft From No. 14 Well	Drwdown @ 50000 Ft From No. 14 Well PSI	Hydr. Head (Ft) Change @ 50000 Ft From No. 14 Well	Drwdown @ 80000 Ft From No. 14 Well PSI	Hydr. Head (Ft) Change @ 80000 Ft From No. 14 Well	Drwdown @ 110000 Ft From No. 14 Well PSI	Hydr. Head (Ft) Change @ 110000 Ft From No. 14 Well
1	-5.8	-12.8	-1.8	-4.0	-0.7	-1.5	0.0	0.0	0.0	0.0
10	-8.3	-18.3	-4.4	-9.7	-3.2	-7.0	-2.2	-4.8	-1.5	-3.3
20	-9.0	-19.8	-5.1	-11.2	-4.0	-8.8	-3.0	-6.6	-2.3	-5.1
30	-9.5	-20.9	-5.6	-12.3	-4.4	-9.7	-3.4	-7.5	-2.7	-5.9
50	-10.0	-22.0	-6.1	-13.4	-5.0	-11.0	-4.0	-8.8	-3.3	-7.3

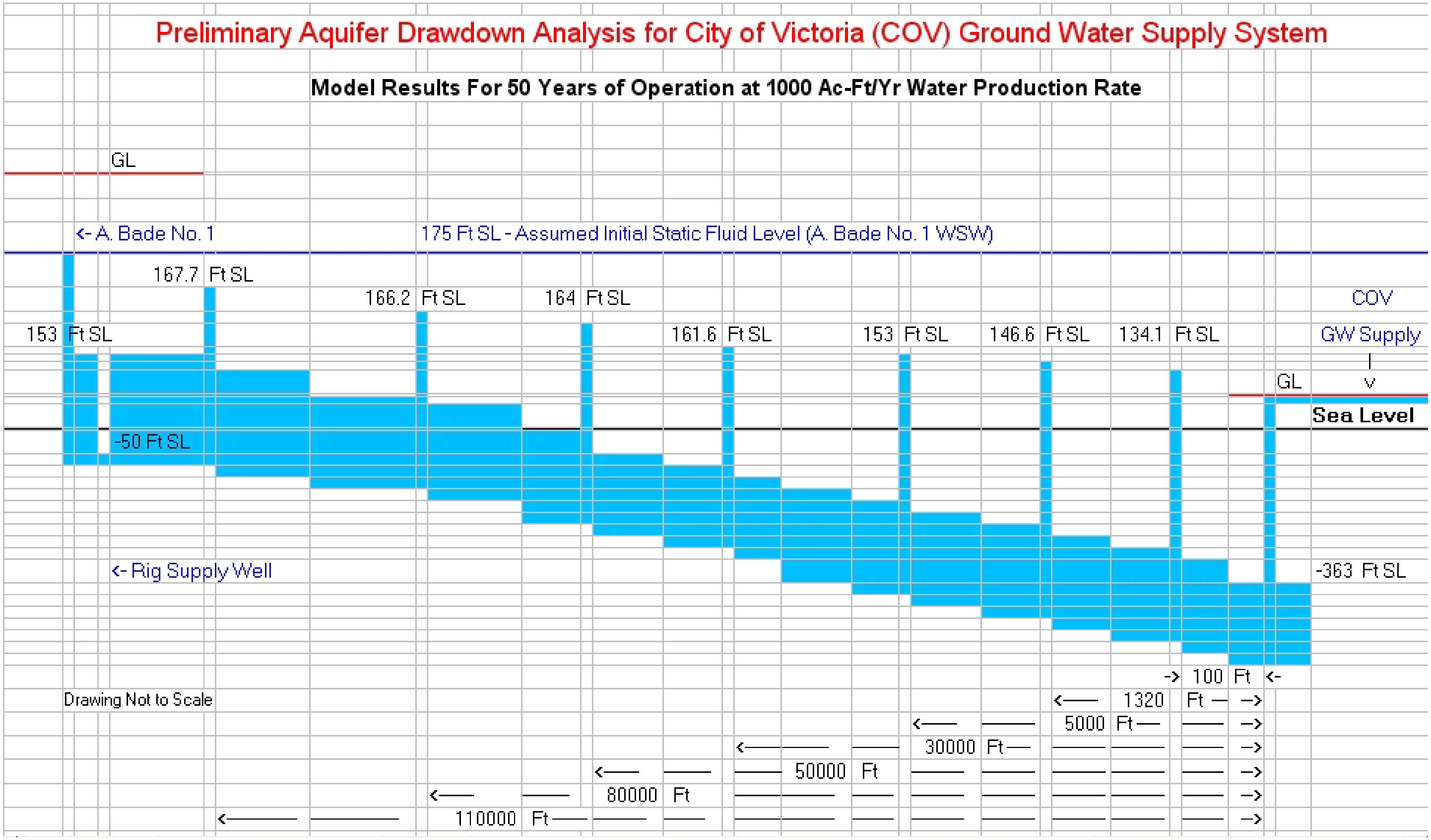
Estimated Fluid Level Elevations (Feet Above/(Below) Sea Level) After Water Production @ COV

Assume Aquifer Initial "Static" Fluid Level = 175 Feet Above Sea Level

Source: Fluid Level at A. Bade No. 1 (Well No. 22 in UEC's Map). Fluid Level Assumed Static

Years of Operation	Hydr. Head Change (Ft) @ 1.0 Ft From No. 14 Well	Fluid Level (Feet SL) @ 1.0 Ft. From No. 14 Well	Hydr. Head Change (Ft) @ 10 Ft From No. 14 Well	Fluid Level (Feet SL) @ 10 Ft. From No. 14 Well	Hydr. Head Change (Ft) @ 100 Ft From No. 14 Well	Fluid Level (Feet SL) @ 100 Ft. From No. 14 Well	Hydr. Head Change (Ft) @ 1000 Ft From No. 14 Well	Fluid Level (Feet SL) @ 1000 Ft. From No. 14 Well	Hydr. Head Change (Ft) @ 1320 Ft From No. 14 Well	Fluid Level (Feet SL) @ 1320 Ft. From No. 14 Well
1	-53.4	121.6	-42.5	132.5	-31.5	143.5	-20.5	154.5	-19.1	155.9
10	-59.2	115.8	-47.9	127.1	-37.0	138.0	-26.0	149.0	-24.6	150.4
20	-60.7	114.3	-49.7	125.3	-38.7	136.3	-27.5	147.5	-26.2	148.8
30	-61.8	113.2	-50.6	124.4	-39.6	135.4	-28.6	146.4	-27.3	147.7
50	-62.9	112.1	-51.9	123.1	-40.9	134.1	-29.7	145.3	-28.4	146.6

Years of Operation	Hydr. Head Change (Ft) @ 5000 Ft From No. 14 Well	Fluid Level (Feet SL) @ 5000 Ft. From No. 14 Well	Hydr. Head Change (Ft) @ 30000 Ft From No. 14 Well	Fluid Level (Feet SL) @ 30000 Ft. From No. 14 Well	Hydr. Head Change (Ft) @ 50000 Ft From No. 14 Well	Fluid Level (Feet SL) @ 50000 Ft. From No. 14 Well	Hydr. Head Change (Ft) @ 80000 Ft From No. 14 Well	Fluid Level (Feet SL) @ 80000 Ft. From No. 14 Well	Hydr. Head Change (Ft) @ 110000 Ft From No. 14 Well	Fluid Level (Feet SL) @ 110000 Ft. From No. 14 Well
1	-12.8	162.2	-4.0	171.0	-1.5	173.5	0.0	175.0	0.0	175.0
10	-18.3	156.7	-9.7	165.3	-7.0	168.0	-4.8	170.2	-3.3	171.7
20	-19.8	155.2	-11.2	163.8	-8.8	166.2	-6.6	168.4	-5.1	169.9
30	-20.9	154.1	-12.3	162.7	-9.7	165.3	-7.5	167.5	-5.9	169.1
50	-22.0	153.0	-13.4	161.6	-11.0	164.0	-8.8	166.2	-7.3	167.7



Preliminary Aquifer Drawdown Analysis for City of Victoria (COV) Ground Water Supply System
Model Results For 50 Years of Operation at 1000 Ac-Ft/Yr Water Production Rate
GL
<- A. Bade No. 1
175 Ft SL - Assumed Initial Static Fluid Level (A. Bade No. 1 WSW)
167.7 Ft SL
166.2 Ft SL
164 Ft SL
153 Ft SL
161.6 Ft SL
153 Ft SL
146.6 Ft SL
134.1 Ft SL
COV
GW Supply
GL
Sea Level
-50 Ft SL
<- Rig Supply Well
-363 Ft SL
-> 100 Ft <-
Drawing Not to Scale
1320 Ft
5000 Ft
30000 Ft
50000 Ft
80000 Ft
110000 Ft


2N
2F
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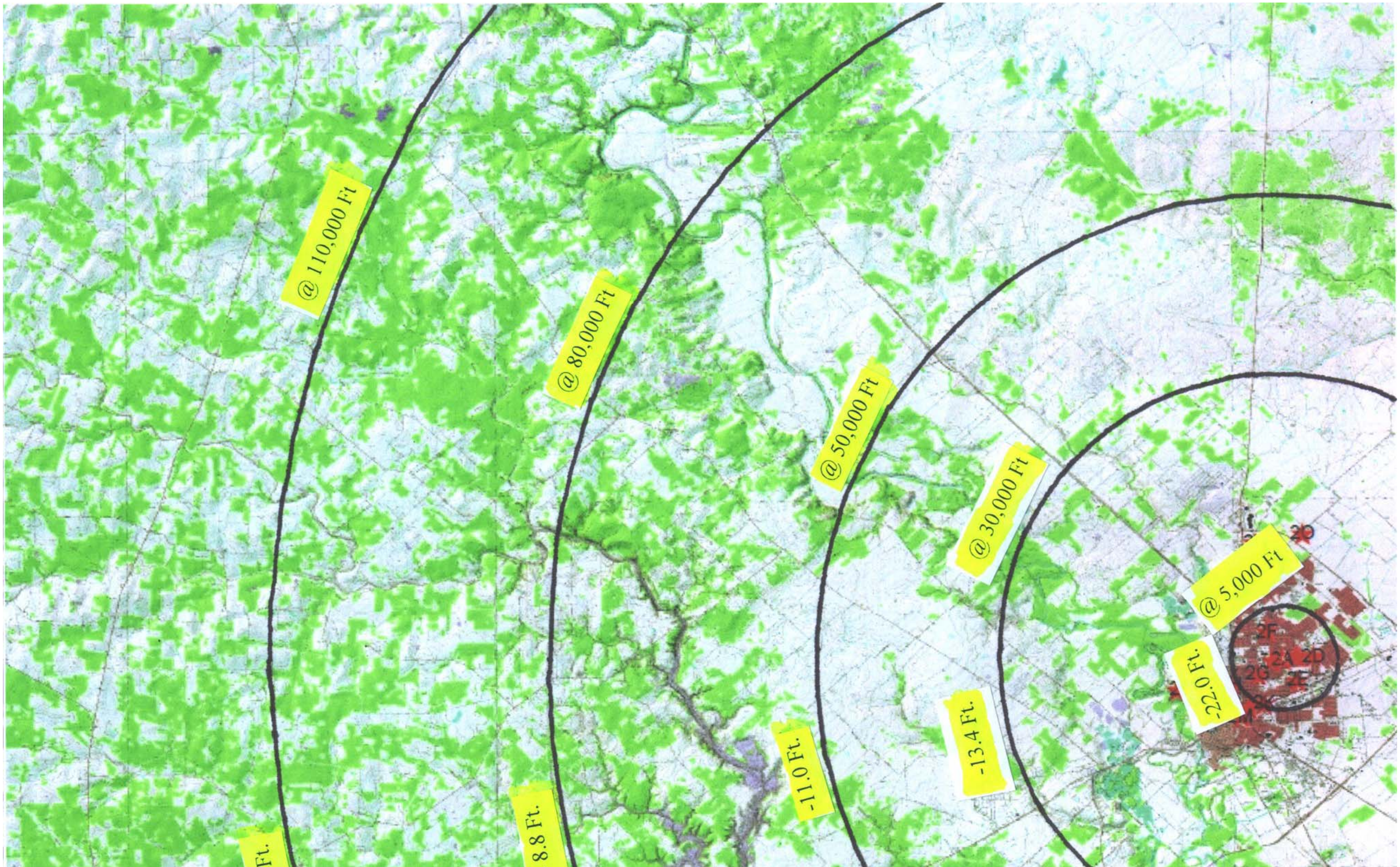

@ 110,000 Ft
@ 80,000 Ft
@ 50,000 Ft
@ 30,000 Ft
@ 5,000 Ft
- 7.3 Ft.
- 8.8 Ft.
-11.0 Ft.
-13.4 Ft.
-22.0 Ft.
2F
2A
2D
2G
2E

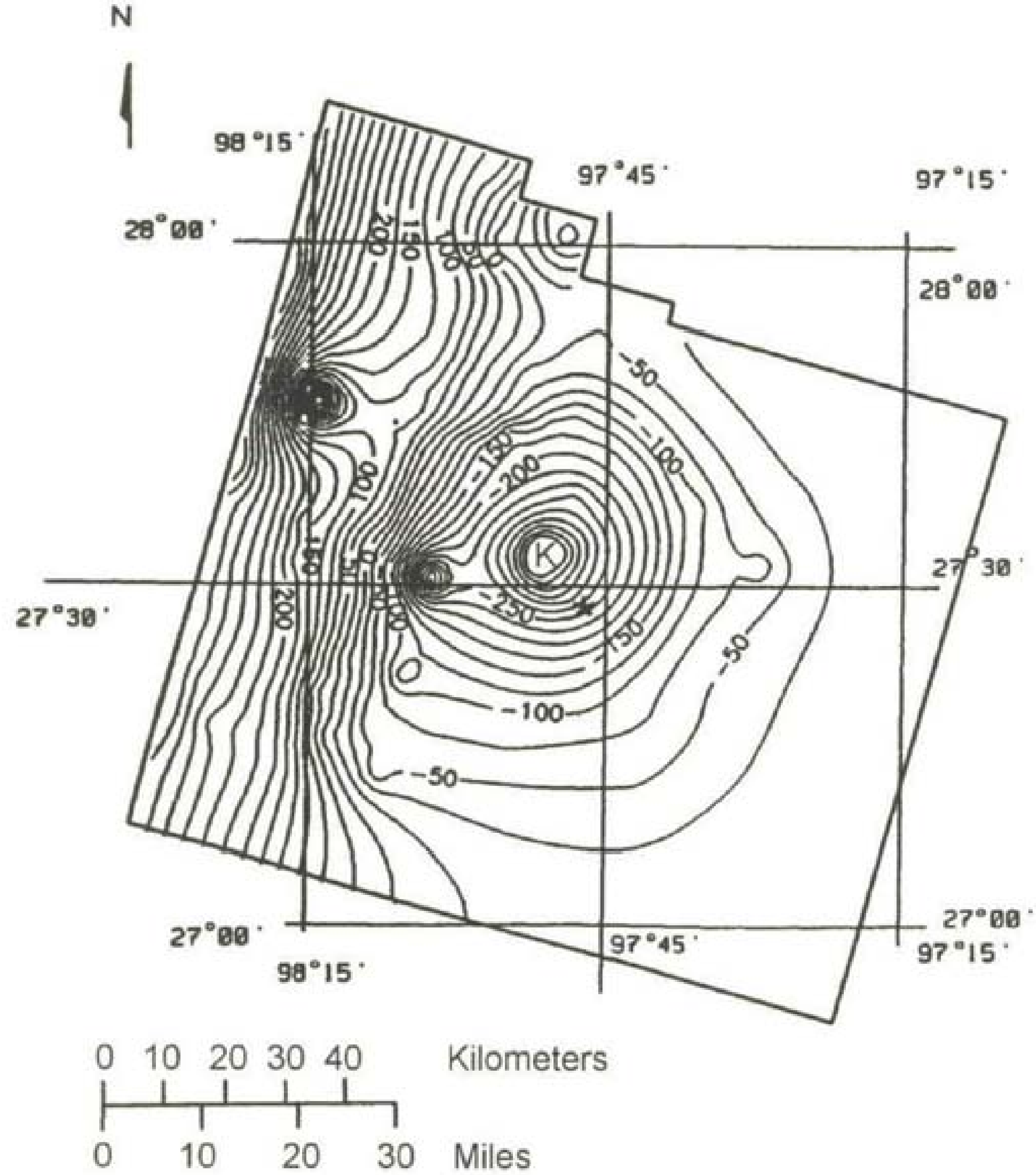
A computer simulation and evaluation of groundwater resources in the Evangeline aquifer in the area of Kleberg County, Texas.

Publication: The Texas Journal of Science
Publication Date: 01-MAY-05
Format: Online
Delivery: Immediate Online Access

Article Excerpt

Abstract. -- A computer simulation of groundwater flow in the Evangeline Aquifer was conducted to determine future groundwater availability within a 5776 square mile (14,960 [km.sup.2]) area southwest of Corpus Christi, Texas. This aquifer is a major source of fresh water for the region, in A...

View more below



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